The Sociocultural Model of Eating Disorders in New Zealand Women: Family Food-Related Experiences and Self-Compassion as Moderators.

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By Sonia Shephard

University of Canterbury: Department of Psychology

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Abstract

Eating disorders are debilitating psychiatric conditions which often result in severe impairment in many life domains. The sociocultural model specifies mechanisms through which sociocultural pressure leads to eating pathology among young women (Stice, 1994) and posits that exposure to the Western cultural thin ideal, internalization of the ideal and experience of a difference between self and ideal leads to body dissatisfaction, which is a well validated precursor to eating pathology. The current research examined whether the relationships between awareness of Western appearance ideals, internalization of such ideals, and body dissatisfaction were moderated by family food-related experiences and self-compassion. The current paper also investigated whether the strength of relationships between awareness of Western appearance ideals, internalization of such ideals, and body dissatisfaction are affected by certain types of family food-related experiences. Female university students (N = 106) completed self-report questionnaires. Results indicated that mindfulness, a constituent of self-compassion, moderated the relationship between internalization of cultural thinness standards and body dissatisfaction. In addition, self-compassion, each component of self-compassion and women's perception of negative maternal family food-related experiences predicted internalization of Western societal norms of thinness, as well as body dissatisfaction. Moreover, women's perception of negative paternal family food-related experiences predicted body dissatisfaction. Women's perception of negative maternal commentary predicted internalization of Western beauty standards and body dissatisfaction. Finally, women's perception of negative paternal commentary and paternal modelling of eating difficulties and body image concerns predicted internalization of those values. Future research should attempt to clarify causal relationships among self-compassion and family food-related experiences within the sociocultural model of eating disorders.

The Sociocultural Model of Eating Disorders in New Zealand Women: Family Food-Related Experiences and Self-Compassion as Moderators

Eating disorders have become increasingly prevalent over the last several decades (Pyle, Halvorson, Neuman, & Mitchell, 1986). In particular, females and young adults are over-represented among eating-disordered populations and there is a positive relationship between Western culture and eating pathology (Stice, 1994). Researchers have, to date, found that within Western culture, body dissatisfaction significantly predicts eating disorders in females (Stice & Shaw, 2002). Furthermore, Stice proposed the sociocultural model of eating disorders which posits that internalization of Western cultural thinness norms mediates exposure to those Western cultural norms and body dissatisfaction. In attempting to unveil the mechanisms that play an integral role in the development and maintenance of eating disorders, the primary purpose of the current study was to examine the role of self-compassion and family food-related experiences within the sociocultural model. The aim was to better understand how they affect awareness of Western body image ideals for women, attributing those values as personally self-relevant and being dissatisfied with one's body.

Eating disorders can result in severe psychosocial problems, comorbid psychopathology and physical complications. They are considered one of the most common psychiatric illnesses among young women (Budd, 2007; Costarelli, Demerzi, & Stamou, 2009) and can be very debilitating conditions (Le Grange, Lock, Loeb, & Nicholls, 2010; Twamley & Davis, 1999). In fact, for those suffering from anorexia nervosa (AN), their mortality rate is very high (Striegel-Moore & Bulik, 2007) and deaths occur from not only the direct effects of the eating disorder but also the indirect health complications of the disorder (Bansil et al., 2008). Furthermore, eating disorders appear to have grave effects on one's quality of life (De La Rie, Van Furth, De Koning,

Noordenbos, & Donker, 2005; Hay & Mond, 2005), and results in a myriad of psychological difficulties (Stice & Shaw, 2002; Thompson & Stice, 2001). The devastating consequences of eating disorders draws attention to the imperative nature of investigating the processes that result in their onset and maintenance which, in turn, may help inform both nosology and intervention efforts.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, American Psychiatric Association [APA], 2000) recognises two specific eating disorders, AN and bulimia nervosa (BN), together with a diagnostic category that does not meet the criteria for AN or BN termed eating disorder not otherwise specified (EDNOS). AN is a disorder characterized by a body weight 85% or less of that expected, a distorted body image, intense fear of gaining weight and the presence of purgative or restrictive activities to maintain low weight. For many women, there is also a disruption of normal menstrual cycle functioning. The lifetime prevalence of AN has been reported as .5%-.6% for adult women (Walters & Kendler, 1995) and .1% for adult men (Garfinkel et al., 1996).

BN is a disorder in which an individual characteristically engages in recurrent episodes of binge eating (eating in a discreet period of time an amount of food that is more than others would eat under similar circumstances, accompanied by a sense of loss of control over eating), and then engages in inappropriate compensatory behaviours to prevent weight gain. Compensatory behaviour may take either of two forms: purging type which includes behaviour such as self-induced vomiting or laxative misuse, or non-purging type which includes behaviour such as excessive exercise or restrictive caloric intake. Importantly, an individual with BN focuses on body shape and weight as a measure of his or her self-worth, a feature which also tends to influence self-esteem (APA, 2000). The lifetime prevalence of BN is approximately 1.1% - 2.8%

among adult women and .1%-.2% among men (Fairburn & Harrison, 2003; Garfinkel et al., 1996; Kendler et al., 1991).

EDNOS is a disorder characterized by eating difficulties that do not meet the criteria for AN or BN. EDNOS is the most prevalent eating disorder diagnosis (Fairburn & Bohn, 2005). In a Portuguese nationwide community sample, it was found that the lifetime prevalence rate of EDNOS was 2.37% (Machado, Machado, Gonçalves, & Hoek, 2007). One provisional sub-type of EDNOS in DSM-IV is binge eating disorder (BED), characterized by recurrent episodes of binge eating without regular inappropriate compensatory behaviour (APA, 2000). BED is prevalent in at least 1% of the population (Machado et al., 2007) and obesity is not uncommon (Jacobs-Philipski et al., 2007). Although BED is currently only a provisional diagnosis, it has been proposed as a primary diagnosis in the DSM-5 (Trace et al., 2012).

Current etiological theories of eating disorders suggest that a wide range of factors (biological, psychological, sociocultural and familial) interact and contribute to eating-related psychopathology. This multidimensional nature of factors places some women at greater risk for eating-related difficulties than others.

Sociocultural Model

Sociocultural theorists assert that the etiology of eating disorders and eating-related difficulties (including body dissatisfaction), is associated with Western cultural values (Striegel-Moore, Silberstein, & Rodin, 1986). Culture can be described as "the belief systems and value orientations that influence customs, norms, practices, and social institutions, including psychological processes (language, caretaking practices, media, educational systems)" (American Psychological Association, 2003, p 380). Western culture (commonly perceived as European White culture), can be described as a social group that values individualism,

autonomy, mastery and tends to look towards the future (Omizo, Kim, & Abel, 2008). 'Westerners' also place high value on females being attractive and having a thin female physique (Striegel-Moore et al., 1986). In Western culture, women's appearance is considered paramount to their value and role in society. In particular, Western culture espouses that an ultra slender body is highly valued, and that a thin individual will be successful and satisfied in life (Stice, 1994; Stice & Shaw, 2002). With this in mind, it is asserted that the Western value system creates a climate in which women are vulnerable to body dissatisfaction through a process in which they compare their body to the ideal body image espoused by Western culture and experience body dissatisfaction if they do not match this esteemed cultural standard of thinness (Warren, Gleaves, Cepeda-Benito, Fernandez, & Rodriguez-Ruiz, 2005). This, in turn, can lead to eating-related difficulties as they try to change their body to meet Western standards (Stice, 1994).

Sociocultural theorists argue that the beauty standards propagated by Western culture are virtually unattainable (Stice & Bearman, 2001; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), and the high value placed on having an ultra-slender body is one factor which plays an important role in the development of eating pathology (Stice, 1994).

Elevated shape and weight concerns are, in fact, risk factors commonly found in individuals with eating disorders (Jacobi, Hayward, De Zwaan, Kraemer, & Agras, 2004). In particular, there is well-established, consistent evidence that body dissatisfaction (BD) is a risk factor for the development of eating pathology (Fingeret & Gleaves, 2004; Shaw, Stice, & Springer, 2004).

Consistent with the tenets of sociocultural theory, research has found that, within Western culture, body dissatisfaction is a risk factor for eating disorders in females (Stice & Shaw, 2002).

In fact, in adolescent and adult women, body dissatisfaction specifically predicted dieting (Stice, Mazotti, Krebs & Martin, 1998) and the development of disordered eating (Gleaves, Williamson, Eberenz, & Sebastian, 1995).

Stice and Shaw (2002) described BD as a "negative subjective evaluation of one's physical body." This evaluation may include such aspects as body weight or shape (e.g., stomach and hips). Importantly, it is very concerning that BD is so widespread among women and young people in particular, that it can be perceived as normal (Mazzeo, 1999) and, in fact, research has indicated that high school and college women frequently use extreme measures such as fasting or purging to control their weight (Mintz & Betz, 1988; Tylka & Subich, 2002) and about half of young women are not satisfied with their appearance (Peat, Peyerl, & Muehlenkamp, 2008). Further studies have indicated that dissatisfaction with physical appearance is not uncommon amongst young children and adolescents. Research has revealed that estimates of the number of young girls who would like to be thinner range between 28% and 55% (McCabe & Ricciardelli, 2003) and almost 25% of adolescent girls report clinically significant levels of BD (Stice & Whitenton, 2002). Furthermore, BD has been found in both clinical and nonclinical female populations. Perceived body image dissatisfaction is highly prevalent in subclinical adolescent populations (most evidently in females) (Gralen, Levine, Smolak, & Murnen, 1990; Kostanski & Gullone, 1998), and Stice (1994) asserted that body dissatisfaction mediates the relationship between internalization of the Western sociocultural thin-ideal and eating pathology.

Given the prevalence of BD among females, particularly young girls and women, together with the fact that it is a strong predictor of eating pathology (Forbes et al., 2005; Phelps, Johnston, & Augustyniak, 1999) and subclinical eating difficulties (Wade, George, & Atkinson,

2009), improving BD is an important goal as it may lead to effective preventive and treatment interventions.

It has been suggested that one method of assessing how much an individual's level of body dissatisfaction has been influenced by Western sociocultural values, is to measure one's level of awareness of Western cultural thinness values as well as internalization of those values as being desirable and self-relevant (Cusumano & Thompson, 1997). To this end, Stice (1994) proposed the sociocultural model of eating disorders which examined awareness of cultural ideals and internalization of these values. The sociocultural model is one of the most rigorously tested and validated models of body dissatisfaction and development of eating pathology (Fingeret & Gleaves, 2004; Thompson et al., 1999; Thompson & Stice, 2001). Furthermore, there is empirical support (from both cross-sectional and longitudinal research) that aspects of this model predicts both eating pathology and subclinical eating difficulties among young women (Stice et al., 1998; Twamley & Davis, 1999).

The sociocultural model specifies mechanisms through which sociocultural pressure leads to eating pathology. The model aims to explain the development of eating disorders among young women and posits that exposure to the thin ideal, internalization of the ideal and experiencing a misfit between one's own body and the ideal, leads to body dissatisfaction (Striegel-Moore & Bulik, 2007). The model asserts that perceived pressure concerning appearance standards, received from a variety of sources including the media, peers, and family, leads to eating pathology through internalization of Western cultural ideals and body dissatisfaction (Halliwell & Harvey, 2006).

According to the sociocultural model, some women may internalize the recurrent Western cultural message that espouses the value of a slim body by first, becoming aware of this

value and its meaning in the social arena, and then interpreting the ideal as very important to personally achieve (Striegel-Moore & Bulik, 2007). In this way, it is the 'thin ideal internalization' of sociocultural appearance standards that appears to mediate the relationship between awareness of cultural pressure to be thin and body dissatisfaction. In fact, Twamley and Davis (1999) and Tester and Gleaves (2005) found that the level of body dissatisfaction experienced by women depends, to a large extent, on their level of thin-ideal internalization. As a result, body dissatisfaction is purported to result from the difference between one's own body and the highly valued cultural thin-ideal body (Duemm, Adams, & Keating, 2003).

Moderators of Variables in the Sociocultural Model

Many women are exposed to societal thinness norms but not all of them develop body dissatisfaction, which suggests that environmental and individual factors may act as moderators in the mediational relations between exposure to thinness values and internalization of the thin ideal as well as between internalization and body dissatisfaction. If awareness of pressure to be thin and internalization of Western ideals are critical in the development of eating pathology, as the sociocultural model suggests, one preventative goal may be to identify factors (e.g., personality traits, family dynamics) that can protect against such internalization (Thompson et al., 1999). In this way, we may reveal moderators of the relationship between awareness and internalization or between internalization and body dissatisfaction. Identifying moderators in the link between awareness, internalization and body dissatisfaction will highlight protective factors which will have important implications for treatment and prevention of eating disorders.

Previous research has revealed that low conformity and low family pressure to diet as well as low levels of past family focus on weight control and elevated levels of self-deceptive enhancement weakened the relationship between awareness and internalization (Twamley &

Davis, 1999). It has also been found that high body mass index (BMI = kg/m2) strengthened the relationship between internalization and body dissatisfaction (Low et al., 2003) and perceived weight also moderated this path (Twamley & Davis, 1999). In addition, research has also found that ethnicity appears to moderate the relationships between awareness and internalization and between internalization and body dissatisfaction (Warren et al., 2005). Feminist ideology and self-esteem were not protective mechanisms against internalization (Fingeret & Gleaves, 2004).

Family Factors

Much research concerns the effect that family environment may have on the development of eating disorders as the family represents an important social group through which attitudes, values, and behaviours are passed on to children (Parke & Buriel, 2008). Research indicated that those closest to an individual may have a particularly potent influence on what the individual perceives as being within the realms of normalcy (Killeya-Jones, Costanzo, Malone, Quinlan, & Miller-Johnson, 2007), which suggests that behaviours of others to whom one is close, such as parents, are particularly powerful influences in a child's development. Researchers have, therefore, explored various mechanisms through which family experiences may place some women at risk for eating disorders. However, eating pathology appears to manifest in a wide variety of family contexts with variable patterns of functioning (Le Grange et al., 2010).

Previous research has, however, identified common features in the families of those with eating pathology. These features include family discord, over protectiveness, enmeshment (showing a lack of privacy or autonomy for family members), a lack of conflict solving strategies and rigidity in interaction patterns, as well as achievement and success orientation (Minuchin, Rosman, & Baker, 1978; White, 1992). Research on family functioning in the sociocultural model revealed that level of cohesion, control and active-recreational orientation of families

appears to be associated with the degree of thin internalization and, internalization increased as the level of family conflict increased (Tester & Gleaves, 2005).

Studies of parenting styles found that parents of individuals with eating pathology and related eating difficulties are more critical of their daughters' body image (Smolak, Levine, & Schermer, 1999) and are more likely to tease their daughters about their appearance (Annus, Smith, Fischer, Hendricks, & Williams, 2007) or encourage dieting (Wertheim, Martin, Prior, Sanson, & Smart, 2002). Moreover, families which were more inclined to focus on physical appearance and admire thinness in others are associated with increased eating pathology (Davis, Shuster, Blackmore, & Fox, 2004). It has also been suggested that, for women with eating pathology, family members were perceived as less caring, were less involved with one another and demonstrated communication styles fraught with more difficulties (Kluck, 2008). Further research on parenting styles related to the sociocultural model found that family influence to have a thin physique was a risk factor for increased thin ideal internalization only among those who had lower levels of awareness of cultural thinness ideals (Twamley & Davis, 1999).

However, other studies that have investigated the effects of family functioning and parenting variables associated with eating-related psychopathology have failed to find such factors to be of significance. Graber, Brooks-Gunn, Paikoff, and Warren (1994) found that eating difficulties had only a minimal association with family relations and Taylor et al. (2003) found that social support, parental influences, perceived parental weight, perfectionism/school performance or early menstruation did not predict the onset of eating disorders. In addition to this, Nicholls and Viner (2009) did not identify parenting or childhood body mass index scores, emotional problems or academic ability as risk factors for anorexia. Also, researchers have

revealed no difference between families of women with or without disordered eating in their emphasis on appearance and modelling behaviours (as cited in Kluck, 2008).

Family Food-Related Experiences

Kluck (2008) argued that some of the mixed findings of previous studies may have occurred because past research failed to specifically examine the effects of family dynamics that operate through the mechanism of family food-related experiences (e.g., modelling dieting, criticism, teasing). Moreover, there were a lack of measures designed to specifically assess negative food-related experiences so, in response to this paucity of research, a psychometric measure was devised to assess family food-related experiences. Results from this recent research, examining both family dynamics and family food-related experiences, found that negative family food-related experiences mediate the relationship between family dysfunction and eating pathology (Kluck, 2008). In fact, it was found that family dysfunction explained only a small amount of the variance in disordered eating (8%) and negative family food-related experiences explained a third of the variance. Furthermore, research has found that perceived parental focus on appearance as well as various types of comments about weight and size are associated with increased body dissatisfaction. Notably, parents who encouraged their daughter to control her weight or size more strongly predicted body dissatisfaction than other types of comments (Kluck, 2010).

Self-Compassion

Previous research has also indicated that certain individual characteristics may be associated with eating-related difficulties. In particular, neuroticism has been shown to be a contributing factor in body dissatisfaction (Dalley, Buunk, & Umit, 2009) and some studies have shown that both negative affect and emotion dysregulation factors appear to be significantly

associated with eating pathology and body dissatisfaction in women. It has been suggested that disordered eating behaviours may be a maladaptive attempt to regulate or avoid negative emotions (Lavender, 2010). In light of these findings, it is important to draw attention to a relatively new construct in the field of personality and social psychology, referred to as self-compassion, and the implications it may have in studies related to eating disorders.

In recent years, researchers have been examining the construct of self-compassion as an adaptive form of self-to-self relating (Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, Hsieh, & Dejitterat, 2005; Neff & McGehee, 2010) which has a significant association with negative affect and neuroticism (Neff, Rude, & Kirkpatrick, 2007). Neff (2003b) defined self-compassion as comprising three main components: the first entails self-kindness which is described as "being kind and understanding toward oneself in instances of pain or failure" (p. 85) which is contrasted with self-judgement described as "harsh judgment and self-criticism" (p. 89). The second component entails common humanity which is described as "perceiving one's experiences as part of the larger human experience" in contrast to isolation described as seeing experiences as "separating and isolating" (p. 89). The final component entails mindfulness described as "holding painful thoughts and feelings in balanced awareness" (p.87) in contrast to over-identifying with them. Essentially, self-compassion is demonstrated by the ability to hold painful or distressing feelings in awareness with kindness, understanding and a sense of shared humanity and, in this way, can be viewed as a useful emotional regulation strategy. A person high in self-compassion is kind and compassionate toward themselves (rather than self-critical or harsh), and sees his or her difficulties accurately (Leary et al., 2007). It has been argued that if individuals are self-compassionate when confronting negative life events, they are more likely to be non-judgemental towards their shortcomings rather than condemning themselves with self-criticism

(Neff, Kirkpatrick, & Rude, 2007). Furthermore, it is argued that self-compassion involves having sufficient distance from one's emotions so that they are fully experienced while being approached with a more mindful objective perspective (see Neff, 2003b for a theoretical overview).

The contemporary conceptualization of self-compassion suggests that it is likely to be effective in buffering people against adverse events by attenuating people's reactions to these events and promoting positive feelings when confronted with difficult situations. In fact, several studies have found that self-compassion is strongly related to psychological health, including factors such as increased happiness and optimism and decreased rumination and neurotic perfectionism (Neff, 2009).

It is important to note also that one of the central tenets of self-compassion involves self-acceptance, and this concept has also been identified by Wade et al. (2009) as a promising area of research in reducing body dissatisfaction. In another study involving adolescents and young adults, self-compassion was also found to be a significant partial mediator between maternal support and wellbeing as well as between family functioning and wellbeing. This previous research suggests that parents may influence their children's functioning by fostering either self-critical or self-compassionate inner dialogues (Neff & McGehee, 2010).

Several studies have found that self-compassion is a powerful predictor of psychological wellbeing. For example, self-compassion is negatively associated with depression, rumination, self-criticism, anxiety, neurotic perfectionism, and thought suppression and positively associated with social connectedness and life satisfaction (Neff, 2003a). Elevated self-compassion has also been found to predict enhanced psychological wellbeing over time (Gilbert & Proctor, 2006; Neff, Kirkpatrick, et al., 2007), and to explain reduced stress following participation in a

program focused on stress-reduction (Mindfulness-Based Stress Reduction; Shapiro, Astin, Bishop, & Cordova, 2005). Furthermore, self-compassion appears to have academic benefits as well. Neff et al. (2005) found that self-compassion was associated with an intrinsic interest in learning and healthier coping strategies following exam failure.

Research has also found that self-compassion has a significant positive association with self-reported measures of optimism, happiness, positive affect, personal initiative, wisdom, curiosity and exploration, extroversion, agreeableness, and conscientiousness. As well, it has a significant negative association with neuroticism and negative affect. Furthermore, self-compassion appears to promote positive psychological wellbeing beyond that attributable to previously studied personality constructs (Neff, Rude, et al., 2007).

Neff (2008) suggested that self-compassion enhances wellbeing through the mechanism of being kind and understanding to oneself when experiencing suffering or perceived inadequacy and having a sense of common humanity, understanding that pain and failure are experiences commonly shared by all humans. As well, positive wellbeing is promoted through balanced awareness of one's emotions and the ability to confront (rather than avoid) painful thoughts and feelings without distortion.

In comparison to self-esteem, the self-compassion construct provides an appealing new dimension to positive psychological functioning because, although it has many of the same positive outcomes as self-esteem in that it provides a strong sense of self-acceptance and positive self-affect, self-compassionate feelings are not based on comparisons with others or evaluations of performance reflected in self-esteem. Rather, self-compassionate feelings stem from recognizing that no human is perfect and, in this way, the self can be seen clearly and offered kindness without the need to put others down or to elevate oneself. Also, research has shown that

self-compassion can be empirically differentiated from self-esteem. Notably, although self-compassion and self-esteem are moderately correlated, self-compassion significantly predicts anger, social comparison, need for closure, self-rumination, public self-consciousness, unstable self-worth and contingent self-worth, over-and-above outcomes attributable to self-esteem (Neff, 2008). Moreover, self-esteem is significantly correlated with narcissism which may lead to self-absorption whereas self-compassion is not which counters the tendencies toward narcissism (Neff, Rude, et al., 2007).

Neff (2003a, 2003b) asserted that self-compassion may play an important role in how people respond to life's difficulties. Leary et al. (2007) studied the cognitive and emotional processes used by self-compassionate people to manage negative life events. In the various studies, participants reported on actual negative events and responded to hypothetical situations and interpersonal feedback. They also rated videotaped performances of themselves or others' behaviour in an awkward situation, and commented on negative personal experiences. The results from this research suggest that self-compassion attenuates people's reactions to negative events in ways that can, in fact, be more beneficial than self-esteem.

Leary et al. (2007) further asserted that the process by which self-compassion protects people against stressful events involves an orientation to care for oneself. In contrast, self-esteem is associated with positive feelings about oneself and importantly, having the belief that one is valued by others (Leary & MacDonald, 2003). Furthermore, low self-compassion accounts for unique variance in anxiety and depression, over-and-above self-esteem, suggesting that self-compassion contributes to psychological health in ways that are different from those of self-esteem (Leary et al., 2007).

Many of the problems that people confront on a daily basis are the result of both their own actions and are caused by other people or events beyond their control. Neff (2003a) suggested that self-compassion should be just as effective in buffering people against adverse events regardless of whether the event was caused by themselves or others. Leary et al. (2007) confirmed the notion that self-compassion is associated with keeping a situation in perspective and self-compassionate reactions are not dependent on who is perceived to be at fault for events.

Current Study

The current study examined the degree to which a self-compassionate personality trait moderates the relationships between awareness and internalization of sociocultural ideals of appearance and between internalization and body dissatisfaction. In particular, the current study examined New Zealand women as the predominant culture in New Zealand is Western culture which purports that physical appearance is fundamental to a woman's worth and role in society and that the esteemed ideal body is very slim and fit (Katz, 1985). It was expected that self-compassion would indirectly affect eating-related psychopathology by moderating the paths between awareness of cultural ideals, internalization and body dissatisfaction. Specifically, it was proposed that greater levels of self-compassion were more likely to decrease awareness of and internalization of cultural thinness norms as well as decrease the level of thin ideal internalization and body dissatisfaction. In this way, the current research explored whether self-compassion may serve to protect against the development of body dissatisfaction as females with greater levels of self-compassion may be less susceptible to the negative effects of sociocultural standards of beauty for women.

The current study also extended upon Kluck's (2008) research by examining family food-related experiences as a moderator in the sociocultural model of eating disorders as it has been

indicated as a specific risk factor for disordered eating. The present study analysed the effects of family food-related experiences on the awareness of and internalization of Western societal standards of thinness as well as between internalization of these thin ideals and body dissatisfaction. It was expected that family food-related experiences would indirectly affect eating-related psychopathology by moderating the path between awareness of cultural ideals, internalization and body dissatisfaction. Specifically, it was proposed that the greater the number of negative family food-related experiences a woman has, the more likely it is that she will increase awareness of and internalization of cultural thinness norms as well as increase the level of thin ideal internalization and body dissatisfaction.

This study also examined whether or not certain types of family food-related experiences moderated the relationship between awareness of cultural thinness norms, internalization and body dissatisfaction. In this way, the current research aims to make an important contribution to the literature in the area of body image and eating disorders by elucidating positive family food-related experiences as a possible protective factor in the prevention of eating disorders.

Method

Participants

Participants were recruited from the University of Canterbury undergraduate psychology student population. Based on a power analysis with power of .8, four predictor variables, a medium effect size and an alpha of .05, the current study needed a total sample size of 85 participants. However, to ensure an adequate sample for testing interactions and anticipating missing data, 106 participants completed the study. As an incentive, students were awarded a small amount of course credit for participation in the study. Inclusion criteria for the study were

female gender because of the nature of the research topic and because some of the questionnaires used are only validated for women. The age range of participants was 18 to 48 years old with a mean age of 20.97 years (SD = 9.45) and the average BMI was 22.25 (SD = 3.83). Participants' self-reported ethnicities were predominantly New Zealand European (85.8%), and a small minority were both New Zealand European and another ethnicity (4.6%), Chinese (3.8%), Māori (1.9%) and other ethnicity (3.8%).

Assessment Measures

Awareness and internalization. The Sociocultural Attitudes Towards Appearance Questionnaire-Revised: Female Version (SATAQ-R; Thompson et al., 1999) has 21 items which measure awareness of Western values of appearance and internalization of those norms. The 10-item awareness subscale measures the extent to which respondents recognise Western ideals of thin body shapes (e.g., "It's important for people to look attractive if they want to succeed in today's culture"). The internalization subscale assesses the degree to which respondents accept the prevalent Western attitudes as self-relevant (e.g., "I tend to compare my body to TV and movie stars") (Thompson et al., 1999). The measure uses a 5-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree). Previous research has reported adequate internal consistency on both subscales with alphas of .82 for awareness and .88 for internalization (Thompson et al., 1999). In the current study, alphas were .71 for awareness and .86 for internalization (see Table 2).

The Societal Emphasis on Appearance Scale (SEA; Fingeret & Gleaves, 2004) also measures the extent to which a respondent is aware of sociocultural messages related to body image. The 12-item scale measures an individual's awareness of the stigmatizing nature of obesity, the value of female attractiveness in the Western culture and how this relates to success

(Fingeret & Gleaves, 2004). Good internal consistency of .75 has been reported by previous research for this measure. In the current study, alpha was .70 (see Table 2).

Body dissatisfaction. The Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987) is a 34-item self-report measure designed to assess an individual's overall concerns about body shape and weight (e.g., "Have you worried about your thighs spreading out when sitting down?" and "Have you worried about other people seeing rolls of flesh around your waist or stomach?") (Cooper et al., 1987). The BSQ uses a 6-point scale ranging from 1 (never) to 6 (always) with higher scores indicating more dissatisfaction. Previous research has demonstrated convergent and discriminant validity for the BSQ (Cooper et al., 1987) as well as adequate reliability with a Cronbach's alpha of .88 (Rosen, Jones, Ramirez, & Waxman, 1996). The current study reported very high internal consistency with an alpha of .98 and corrected item-total correlations ranged from .34 to .91 (see Table 2).

Family food-related experiences. Family Experiences Related to Food Questionnaire (FERFQ; Kluck, 2008) is a 12-item self-report measure which assesses respondents' perceptions of their parent's eating behaviours and attitudes toward appearance (Kluck, 2008). The measure uses a five-point scale ranging from 1 (never) to 5 (all the time) with higher scores indicating more food-related difficulties. Each questionnaire was answered twice: once for mother's behaviours (FERFQ-M) and again for father's behaviours (FERFQ-F). The FERFQ contains 4 subscales which assess certain types of family food-related experiences. Specifically, a 5-item Negative Maternal Commentary (NegMatCom) and a 4-item Negative Paternal Commentary (NegPatCom) measure respondents' perceptions of their mother's and father's verbal messages related to food (e.g., "Criticized your weight/size?"). In addition, a 4-item Maternal Modelling (MatMod) and 4-item Paternal Modelling (PatMod) subscale measure frequency of exposure to

maternal and paternal modelling of weight and appearance concerns (e.g., "How important is it to your mother that she be as thin as possible?" and "How often did your father express dissatisfaction about his weight/size?").

Kluck (2008) found adequate internal consistency for the four subscales of the FERFQ in her sample reporting Cronbach alpha coefficients of .83 for Negative Maternal Commentary, .84 for Negative Paternal Commentary, .74 for Maternal Modelling and .71 for Paternal Modelling. In the current study, alphas were .74 for the FERFQ-M and .75 for the FERFQ-F. In addition, the alphas reported for the FERFQ subscales are .78 for Negative Maternal Commentary, .68 for Negative Paternal Commentary, .78 for Maternal Modelling and .64 for Paternal Modelling (see Table 2). Paternal modelling and negative paternal commentary were likely compromised by having only four items in the scale.

Self-compassion. The Self-Compassion Scale (SCS; Neff, 2003a) is a 26-item scale which measures six aspects of self-compassion. The 5-item Self-Kindness subscale measures respondents' level of kindness towards themselves (e.g., "I try to be loving towards myself when I'm feeling emotional pain"). In contrast, the 5-item Self-Judgement subscale measures an individual's level of self-criticism (e.g., "When I see aspects of myself that I don't like, I get down on myself"). The 4-item Common Humanity subscale measures respondents' sense of connectedness to shared human experiences (e.g., "When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people"). In contrast, the 4-item Isolation subscale measures one's sense of isolation from others (e.g., "When I fail at something that's important to me I tend to feel alone in my failure"). The 4-item Mindfulness subscale measures a person's ability to hold negative emotions in balanced awareness (e.g., "When I fail at something important to me I try to keep things in perspective"). In contrast, the 4-item Over-

Identified subscale assesses the level at which an individual becomes consumed by negative emotional states (e.g., "When something upsets me I get carried away with my feelings"). The measure uses a five-point scale ranging from 1 (almost never) to 5 (almost always).

The total self-compassion score is obtained from the mean scores on the six subscales which are summed (after the negative subscale items, self-judgement, isolation and over-identified, have been reverse-coded). Research indicates that the SCS demonstrates concurrent validity (e.g., correlates with social connectedness) and discriminant validity (e.g., no correlation with social desirability) (Neff 2003a). Previous research has also demonstrated good internal consistency ($\alpha = .92$) and test-retest reliability ($\alpha = .93$) (Neff, 2003a). In the current study, alphas were .78 for self-kindness, .77 for self-judgement, .80 for common humanity, .79 for isolation, .75 for mindfulness, .81 for over-identified and .92 for the overall SCS (see Table 2).

Procedure

Participants were initially provided with an information sheet which stated the aim of the study was to examine cultural standards and body image and to investigate possible protective factors. In addition, the information sheet provided referrals to Health Centres in the event that a participant may want support following participation in the study. Participants then completed a study packet containing a demographic information sheet (to collect descriptive data for the sample as well as self-reported height and weight) and five questionnaires. Informed consent was implied by voluntary participation in filling out the questionnaires. A group administration format was used (maximum of 10 students, seated alone) and all responses were anonymous. Completion of the questionnaires took approximately 45 minutes. At the completion of data collection, participants were provided with a debriefing form that further described the study's purpose. Finally, participants provided written responses to three general questions related to the

study which were submitted to the Psychology Department as partial fulfilment towards their course credit.

Demographic Information

All participants were given a questionnaire requesting demographic characteristics of age, weight, height and ethnicity. Weight and height were used to calculate the Body Mass Index (BMI; weight in kg/height in m^2) of each participant.

Statistical Analyses

The present study utilized a cross-sectional design to examine family food-related experiences and self-compassion as possible moderators in the sociocultural model of eating disorders. The study analysed the relationship between awareness of cultural thinness norms and internalization of these norms and how that is affected by family food-related experiences and self-compassion and how they also affect the relationship between internalization of the thin ideal and body dissatisfaction. In addition to this, the current study also examined whether the strength of relationship between awareness of Western appearance ideals and internalization of such ideals, and the relationship between internalization and body dissatisfaction are affected by certain types of family food-related experiences.

All data entry and analyses were performed using the Statistical Package for the Social Sciences: Version 17.0 (SPSS Inc., 2009), and ModGraph (Jose, 2008) was used to interpret and plot statistically significant interactions. Analyses included descriptive statistics, reliability, correlations and hierarchical moderated regression (Aiken & West, 1991; Frazier, Tix, & Barron, 2004). First, the characteristics of the sample, including age, weight, height and ethnicity were examined using descriptive statistics. Each participant's BMI was calculated using weight in kg/height in m^2. The internal consistency of each measure in the sample was computed with

Cronbach's alpha coefficients. Pearson's product moment correlation coefficients were also calculated to assess the relationship between variables used in the study. Hierarchical moderated regression analyses were performed to assess the relationship between awareness of cultural thinness norms and internalization of these norms and how that is affected by family food-related experiences and self-compassion and how they also affect the relationship between internalization of the thin ideal and body dissatisfaction. An alpha of <0.05 was adopted for all regression analyses in the study.

Awareness and internalization. In the first step of the regression analysis the predictor variables awareness and family experiences related to food (maternal and paternal) as well as awareness and each FERFQ subscale (negative maternal commentary, negative paternal commentary, maternal modelling and paternal modelling) were entered to ascertain their contribution to the dependent variable internalization. To assess the moderating effect of family experiences related to food (maternal and paternal) and the FERFQ subscales on the relationship between awareness and internalization, a second step in the regression model examined, one variable at a time, the interaction between the predictor variable and the proposed moderating variable (awareness x family food-related experiences (maternal and paternal), awareness x negative maternal commentary, awareness x negative paternal commentary, awareness x maternal modelling and awareness x paternal modelling).

Next, the predictor variables awareness and self-compassion as well as awareness and each self-compassion subscale (self-kindness, self-judgement, common humanity, isolation, mindfulness and over-identified) were entered in the first step of the regression analysis to measure their contribution to the dependent variable internalization. To assess the moderating effect of self-compassion and the self-compassion subscales on the relationship between

awareness and internalization, a second step in the regression model included the interaction between the predictor variable and the proposed moderating variable (awareness x SCS, awareness x self-kindness, awareness x self-judgement, awareness x mindfulness, awareness x common humanity, awareness x isolation and awareness x over-identified).

Finally, regression analyses were used to examine a three-way interaction between self-compassion, family experiences related to food (maternal and paternal) and awareness in predicting internalization.

Internalization and body dissatisfaction. Using the same step-wise procedure, further regression analyses were performed for the predictor variables internalization and family experiences related to food (maternal and paternal) as well as internalization and the FERFQ subscales, to determine their contribution to the dependent variable body dissatisfaction. In addition, any moderating effect of family experiences related to food (maternal and paternal) and the FERFQ subscales on the relationship between internalization and body dissatisfaction was assessed.

Using the same step-wise procedure, further regression analyses were performed for the predictor variables internalization and self-compassion as well as the interaction between internalization and the self-compassion subscales, to determine their contribution to the dependent variable body dissatisfaction. Also, any moderating effect of self-compassion and the self-compassion subscales on the relationship between internalization and body dissatisfaction was assessed.

Finally, regression analyses were used to examine a three-way interaction between self-compassion, family experiences related to food (maternal and paternal) and internalization in predicting body dissatisfaction.

Missing data. Individuals with missing data on any variable were excluded from any analysis. In all analyses, deletion of missing data did not have a great effect on the sample size (listwise N = 104-106).

Mean-centring. To reduce the potential of multicollinearity between predictor variables and their interaction terms, a consensus has developed over time among notable researchers that recommends mean-centring variables prior to analysis (Aiken & West, 1991; Cohen & Cohen, 1983). However, increasingly, a number of other researchers have asserted that mean-centring the data is not actually necessary to reduce multicollinearity (Echambadi & Hess, 2007: Gatignon & Vosgerau, 2005: Kromrey & Foster-Johnson, 1998). Based on recent numerical demonstrations which have shown that mean-centring does not affect multicollinearity (Echambadi & Hess, 2007), the current study did not mean-centre the data because other researchers had argued that it was unnecessary. However, to examine the potential of multicollinearity between the interaction terms and their specific components, the independent and moderator variables were also centred before being manipulated and entered in the regression analyses. Of note, there was no difference in the results created using MODGRAPH.

Results

Descriptive Analyses

Demographic Composition and Study Measures. See Table 1 for a description of participant demographics and descriptive information on study measures.

Table 1

Means and Standard Deviations for Demographics of the Sample and Measures

	M	*SD*
Age (years)	20.97	9.45
Weight (kg)	61.63	10.39
Height (cm)	166.54	6.19
BMI (kg/m^2)	22.25	3.83
AWARE	36.58	4.80
INTERN	39.48	7.71
SEA	37.85	4.62
FERFQM	27.03	6.47
FERFQF	29.89	76.04
NEGMATCOM	9.83	3.79
MATMOD	9.69	3.32
NEGPATCOM	6.50	2.46
PATMOD	8.10	2.66
SCS	2.70	.67
SELFKIND	2.66	.79
SELFJUDGE	2.60	.81
COMHUM	2.83	.87
ISOLATION	2.69	.88
MINDFUL	3.03	.78
OVERIDENT	2.44	.89
BSQ	97.72	38.00

Note. AWARE = Awareness; INTERN = Internalization; SEA = Societal Emphasis on Appearance; FERFQM = Family Experiences Related to Food Questionnaire (Mother); FERFQF = Family Experiences Related to Food Questionnaire (Father); NEGMATCOM = Negative Maternal Commentary; MATMOD = Maternal Modelling; NEGPATCOM = Negative Paternal Modelling; PATMOD = Paternal Modelling; SCS = Self-Compassion; SELFKIND = Self-Kindness; SELFJUDGE = Self-Judgement; COMHUM = Common Humanity; ISOLATION = Isolation; MINDFUL = Mindfulness; OVERIDENT = Over-Identified; BSQ = Body Shape Questionnaire.

Interrelationships between variables. Intercorrelations between BMI, measures and their subscales are presented in Table 2.

Awareness, internalization and body dissatisfaction. Consistent with well-replicated prior research, awareness was significantly positively correlated with internalization and body dissatisfaction. As well, there was a significant and strong positive association between internalization of the thin ideal and body dissatisfaction.

Self-compassion. In support of current predictions, the SCS was significantly negatively correlated with awareness, internalization and body dissatisfaction. In particular, results indicated a strong relationship between an individual's level of self-compassion and body dissatisfaction. Upon closer examination of the self-compassion subscales, results indicated that independently, self-kindness, self-judgement, common humanity, isolation, mindfulness and over-identification were significantly negatively correlated with awareness of the Western cultural thin ideal, internalization of those ideals and body dissatisfaction. Specifically, results indicate weak to moderate relationships between all self-compassion subscales and awareness of Western cultural thinness values, however, there were moderate to strong relationships between the self-compassion subscales and internalization as well as between these subscales and body dissatisfaction.

Family experiences related to food. As predicted, negative maternal family experiences related to food was significantly positively correlated with both internalization and body dissatisfaction. Of note, negative maternal family experiences related to food was not significantly correlated with awareness of Western cultural thinness ideals. These results indicate that women's perception of negative maternal family food experiences is not associated with awareness of cultural body image norms but is, however, associated with internalization of the thin ideal and body image dissatisfaction. In contrast, women's perception of negative paternal family experiences related to food was only significantly positively associated with body dissatisfaction. In terms of types of family food-related experiences, specifically, maternal and paternal negative commentary was significantly positively correlated with both internalization of thinness values and body dissatisfaction however, it was not associated with awareness of

Western cultural body image norms. In contrast, both maternal and paternal modelling of food difficulties was not associated with awareness, internalization or body dissatisfaction.

BMI. Finally, women's BMI was significantly and moderately positively correlated with body dissatisfaction. In addition, there was a weak but significant positive association between BMI and women's perceptions of maternal negative commentary.

Table 2

Intercorrelations among Variables and Cronbach's Alphas for each Measure in the Sample

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. BMI	N/A	.01	.03	.14	.18	-.14	.24*****	.14	.01	-.01	-.09	.03	-.16	.00	-.12	-.02	-.12	.40**
2. AWARE		.71	.41**	.55**	.17	-.00	.17	.14	.16	-.05	-.33**	-.22*****	-.33**	-.20*****	-.32**	-.21*****	-.28**	.23*****
3. INTERN			.86	.32**	.30**	-.09	.28**	.14	.30**	.16	-.55**	-.47**	-.57**	-.35**	-.48**	-.33**	-.39**	.64**
4. SEA				.70	.11	-.09	.10	.12	.18	.02	-.33**	-.23*****	-.45**	-.17	-.32**	-.12	-.25**	.30**
5. FERFQM					.74	.14	.74**	.78**	.26**	.05	-.37**	-.28**	-.30**	-.23*****	-.30**	-.22*****	-.41**	.40**
6. FERFQF						.75	.18	.01	.70**	.75**	-.14	-.12	-.19*****	-.10	-.15	-.02	-.04	.19*****
7. NEGMATCOM							.78	.23*****	.42**	-.05	-.33**	-.22*****	-.31**	-.15	-.36**	-.19	-.32**	.48**
8. MATMOD								.78	-.07	.07	-.19	-.15	-.11	-.18	-.11	-.10	-.26**	.14
9. NEGPATCOM									.68	.21*****	-.27**	-.17	-.32**	-.10	-.29**	-.15	-.26**	.28**
10. PATMOD										.64	-.07	-.05	-.08	-.06	-.05	-.08	-.01	.16
11. ATMDT											.93	.88**	.83**	.77**	.75**	.80**	.75**	-.69**
12. SELFKIND												.82	.68**	.70**	.56**	.73**	.52**	-.63**
13. SELFJUDGE													.80	.48**	.61**	.50**	.66**	-.67**
14. COMHUM														.79	.45**	.72**	.39**	-.48**
15. ISOLATION															.78	.43**	.55**	-.63**
16. MINDFUL																.74	.50**	-.41**
17. OVERIDENT																	.78	-.44**
18. BSQ																		.98

Note. Cronbach's alphas appear on the diagonal; (*****) symbol indicates a correlation is significant at $p < .05$ and (**) symbol indicates a correlation is significant at $p < .01$. BMI = Body Mass Index; AWARE = Awareness; INTERN = Internalization; SEA = Societal Emphasis on Appearance; FERFQM = Family Experiences Related to Food (Mother); FERFQF = Family Experiences Related to Food (Father); NEGMATCOM = Negative Maternal Commentary; MATMOD = Maternal Modelling; NEGPATCOM = Negative Paternal Commentary; PATMOD = Paternal Modelling; ATMDT = Self Compassion; SELFKIND = Self Kindness; SELFJUDGE = Self-Judgement; COMHUM = Common Humanity; ISOLATION = Isolation; MINDFUL = Mindfulness; OVERIDENT = Over-Identification; BSQ = Body Dissatisfaction.

Awareness and Internalization

Self-compassion. Hierarchical regression analyses were performed to test for moderator effects between awareness and internalization, with self-compassion as a possible moderator. Interaction effects for self-compassion and awareness predicting internalization were also analysed by regressing internalization onto the independent variable of awareness and the moderator variable of self-compassion and examining the interaction between these two variables. It was hypothesized that for women with high self-compassion, there would be a weaker relationship between awareness and internalization compared to those with low self-compassion.

As displayed in Table 3, the self-compassion x awareness interaction predicting internalization was not statistically significant; however, there was a significant main effect for self-compassion.

Table 3

Summary of Hierarchical Moderator Regression Analyses of Self-Compassion Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.36	.34	
AWARE	0.41	0.13	3.08	<.01			
SCS	-5.35	0.97	-5.53	<.01			
Step 2					.36	.34	<.01
AWARE	0.26	0.57	0.47	.64			
SCS	-7.29	7.21	-1.01	.32			
AWARE*SCS	0.05	0.19	0.27	.79			

Note. AWARE = Awareness (SATAQ-R); SCS = Self-Compassion (ATMDT).

Self-compassion subscales. Analysis was first performed with the total score and then the procedure was repeated with the sub-scales. As displayed in Tables 4 - 9, no self-compassion subscales x awareness interactions were statistically significant. However, there were significant main effects for all self-compassion subscales.

Table 4

Summary of Hierarchical Moderator Regression Analyses of Self-Kindness Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.32	.30	
AWARE	0.51	0.13	3.83	<.01			
SELFKIND	-3.88	0.82	-4.74	<.01			
Step 2					.32	.30	<.01
AWARE	0.32	0.53	0.61	.55			
SELFKIND	-6.44	6.79	-0.95	.35			
AWARE*SELFKIND	0.07	0.18	0.38	.71			

Note. AWARE = Awareness (SATAQ-R); SELFKIND = Self-Kindness (ATMDT).

Table 5

Summary of Hierarchical Moderator Regression Analyses of Self-Judgement Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.38	.37	
AWARE	0.40	0.13	3.03	<.01			
SELFJUDGE	-4.64	0.79	-5.91	<.01			
Step 2					.38	.36	<.01
AWARE	0.51	0.46	1.11	.27			
SELFJUDGE	-3.25	5.59	-0.58	.56			
AWARE*SELFJUDGE	-0.04	0.15	-0.25	.80			

Note. AWARE = Awareness (SATAQ-R); SELFJUDGE = Self-Judgement (ATMDT).

Table 6

Summary of Hierarchical Moderator Regression Analyses of Common Humanity Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.24	.23	
AWARE	0.57	0.14	4.03	<.01			
COMHUM	-2.47	0.78	-3.19	<.01			
Step 2					.24	.22	<.01
AWARE	0.64	0.47	1.36	.18			
COMHUM	-1.47	5.92	-0.25	.81			
AWARE*COMHUM	-0.03	0.16	-0.17	.86			

Note. AWARE = Awareness (SATAQ-R); COMHUM = Common Humanity (ATMDT).

Table 7

Summary of Hierarchical Moderator Regression Analyses of Isolation Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.30	.29	
AWARE	0.46	0.14	3.27	<.01			
ISOLATE	-3.41	0.76	-4.49	<.01			
Step 2					.31	.29	.01
AWARE	0.77	0.44	1.75	.08			
ISOLATE	0.57	5.38	0.11	.92			
AWARE*ISOLATE	-0.11	0.15	-0.75	.46			

Note. AWARE = Awareness (SATAQ-R); ISOLATE = Isolation (ATMDT).

Table 8

Summary of Hierarchical Moderator Regression Analyses of Mindfulness Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.23	.21	
AWARE	0.57	0.14	4.00	<.01			
MINDFUL	-2.51	0.88	-2.86	.01			
Step 2					.23	.21	<.01
AWARE	0.57	0.51	1.13	.26			
MINDFUL	-2.46	5.90	-0.42	.68			
AWARE*MINDFUL	<-0.01	0.16	-0.01	.99			

Note. AWARE = Awareness (SATAQ-R); MINDFUL = Mindfulness (ATMDT).

Table 9

Summary of Hierarchical Moderator Regression Analyses of Over-Identified Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.25	.24	
AWARE	0.52	0.14	3.64	<.01			
OVERIDENT	-2.63	0.77	-3.40	<.01			
Step 2					.25	.23	<.01
AWARE	0.52	0.41	1.26	.21			
OVERIDENT	-2.60	5.70	-0.46	.65			
AWARE*OVERIDENT	<0.01	0.16	-0.01	1.00			

Note. AWARE = Awareness (SATAQ-R); OVERIDENT = Over-Identified (ATMDT).

Family experiences related to food. Hierarchical regression analyses were performed to test for main effects of awareness on internalization, and seeing if family experiences related to food moderated this relationship. In addition, interaction effects for family experiences related to food and awareness on internalization were also analysed by regressing internalization on the independent variable of awareness and the moderator variable of family experiences related to food and examining the interaction between these two variables. It was hypothesized that the higher the number of negative family food-related experiences a woman has, the stronger the relationship will be between awareness and internalization of cultural thinness norms. As displayed in Table 10, the maternal family experiences related to food x awareness interaction was not statistically significant. However, there was a significant main effect for maternal family experiences related to food.

Table 10

Summary of Hierarchical Moderator Regression Analyses of Maternal Family Experiences Related to Food Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.22	.21	
AWARE	0.59	0.14	4.17	<.01			
FERFQM	0.29	0.11	2.73	.01			
Step 2					.23	.20	.01
AWARE	0.19	0.60	0.32	.75			
FERFQM	-0.31	0.86	-0.36	.72			
AWARE*FERFQM	0.02	0.02	0.69	.49			

Note. AWARE = Awareness (SATAQ-R); FERFQM = Maternal Family Experiences Related to Food (FERFQ-M).

As displayed in Table 11, the paternal family experiences related to food x awareness interaction did not significantly predict internalization and there was no significant main effect for paternal family experiences related to food.

Table 11

Summary of Hierarchical Moderator Regression Analyses of Paternal Family Experiences Related to Food Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.17	.16	
AWARE	0.65	0.14	4.55	<.01			
FERFQF	-0.01	0.01	-1.03	.31			
Step 2					.19	.17	.02
AWARE	-0.10	0.53	-0.18	.86			
FERFQF	-1.23	0.83	-1.48	.14			
AWARE*FERFQF	0.03	0.02	1.47	.15			

Note. AWARE = Awareness (SATAQ-R); FERFQF = Paternal Family Experiences Related to Food (FERFQ-F).

Family experiences related to food subscales. As shown in Tables 12 – 15, no subscales of the family experiences related to food x awareness interactions significantly predicted internalization. There were, however, significant main effects for negative maternal commentary, negative paternal commentary and paternal modelling. In contrast, there was no significant main effect for maternal modelling.

Table 12

Summary of Hierarchical Moderator Regression Analyses of Negative Maternal Commentary Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.21	.20	
AWARE	0.60	0.14	4.18	<.01			
NEGMATCOM	0.43	0.18	2.39	.02			
Step 2					.23	.21	.02
AWARE	-0.07	0.46	-0.15	.88			
NEGMATCOM	-2.30	1.81	-1.27	.21			
AWARE*NEGMATCOM	0.07	0.05	1.52	.13			

Note. AWARE = Awareness (SATAQ-R); NEGMATCOM = Negative Maternal Commentary (FERFQ-M).

Table 13

Summary of Hierarchical Moderator Regression Analyses of Maternal Modelling Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.17	.16	
AWARE	0.63	0.15	4.37	<.01			
MATMOD	0.21	0.21	0.98	.33			
Step 2					.18	.15	.01
AWARE	0.85	0.41	2.09	.04			
MATMOD	1.17	1.71	0.69	.49			
AWARE*MATMOD	-0.03	0.05	-0.57	.57			

Note. AWARE = Awareness (SATAQ-R); MATMOD = Maternal Modelling (FERFQ-M).

Table 14

Summary of Hierarchical Moderator Regression Analyses of Negative Paternal Commentary Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.23	.21	
AWARE	0.59	0.14	4.20	<.01			
NEGPATCOM	0.76	0.28	2.75	.01			
Step 2					.23	.21	<.01
AWARE	0.25	0.45	0.57	.57			
NEGPATCOM	-1.29	2.59	-0.50	.62			
AWARE*NEGPATCOM	0.05	0.07	0.80	.43			

Note. AWARE = Awareness (SATAQ-R); NEGPATCOM = Negative Paternal Commentary (FERFQ-F).

Table 15

Summary of Hierarchical Moderator Regression Analyses of Paternal Modelling Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.20	.19	
AWARE	0.67	0.14	4.71	<.01			
PATMOD	0.53	0.26	2.05	.04			
Step 2					.20	.18	<.01
AWARE	0.57	0.47	1.22	.23			
PATMOD	0.11	2.10	0.05	.96			
AWARE*PATMOD	0.01	0.06	0.20	.84			

Note. AWARE = Awareness (SATAQ-R); PATMOD = Paternal Modelling (FERFQ-F).

Self-compassion and family experiences related to food. Hierarchical regression analyses were performed to test for a moderator effect between awareness and internalization, using the combination of self-compassion and family food-related experiences (maternal and paternal) (i.e., three-way interactions). When testing for three-way interactions, problems with multicollinearity were encountered. This was solved by standardizing the predictor variables (prior to creating interaction terms) in all of these analyses. As displayed in Tables 16 and 17, in the analysis predicting internalization, the self-compassion x family food-related experiences (maternal and paternal) x awareness interactions were not statistically significant.

Table 16

Summary of Hierarchical Moderator Regression Analyses of Self-Compassion and Maternal Family Experiences Related to Food Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR²	ΔR^2
Step 1					.37	.35	
AWARE	1.94	0.64	3.02	<.01			
SCS	-3.28	0.68	-4.81	<.01			
FERFQM	0.80	0.65	1.23	.22			
Step 2					.38	.34	.01
AWARE	2.19	0.69	3.17	<.01			
SCS	-3.15	0.70	-4.48	<.01			
FERFQM	0.78	0.66	1.17	.24			
AWARE*FERFQM	1.08	0.87	1.25	.22			
AWARE*SCS	0.45	0.74	0.60	.55			
FERFQM*SCS	0.87	0.75	1.16	.25			
Step 3					.38	.34	<.01
AWARE	2.06	0.73	2.82	.01			
SCS	-3.09	0.71	-4.33	<.01			
FERFQM	0.65	0.71	0.92	.36			
AWARE*FERFQM	1.17	0.88	1.32	.19			
AWARE*SCS	0.32	0.77	0.41	.68			
FERFQM*SCS	0.97	0.77	1.26	.21			
AWARE*SCS*FERFQM	-0.36	0.60	-0.59	.57			

Note. AWARE = Awareness (SATAQ-R); SCS = Self-Compassion; FERFQM = Maternal Family Experiences Related to Food (FERFQ-M).

Table 17

Summary of Hierarchical Moderator Regression Analyses of Self-Compassion and Paternal Family Experiences Related to Food Predicting Internalization

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.38	.36	
AWARE	1.92	0.64	3.02	<.01			
SCS	-3.75	0.64	-5.84	<.01			
FERFQF	-1.22	0.61	-2.01	.05			
Step 2					.47	.44	.09
AWARE	3.19	0.92	3.45	<.01			
SCS	-1.58	0.86	-1.84	.07			
FERFQF	23.41	6.44	3.64	<.01			
AWARE*FERFQF	14.87	7.21	2.06	.04			
AWARE*SCS	0.40	0.59	0.67	.51			
FERFQF*SCS	19.58	5.40	3.62	<.01			
Step 3					.47	.43	<.01
AWARE	3.26	0.99	3.29	<.01			
SCS	-1.58	0.86	-1.83	.07			
FERFQF	23.43	6.47	3.62	<.01			
AWARE*FERFQF	15.27	7.51	2.04	.05			
AWARE*SCS	0.56	0.98	0.57	.57			
FERFQF*SCS	19.73	5.48	3.60	<.01			
AWARE*SCS*FERFQF	1.42	6.87	0.21	.84			

Note. AWARE = Awareness (SATAQ-R); SCS = Self-Compassion; FERFQF = Paternal Family Experiences Related to Food (FERFQ-F).

Internalization and Body Dissatisfaction

Self-compassion. Hierarchical regression analyses were performed to test for main effects between internalization predicting body dissatisfaction and seeing if self-compassion moderated this relationship. In addition, interaction effects for self-compassion and internalization on body dissatisfaction were also analysed by regressing body dissatisfaction onto the independent variable of internalization and the moderator variable of self-compassion and examining the interaction between these two variables. It was hypothesized that the greater the amount of self-compassion a woman has, the more likely it is that she will decrease the level of thin ideal internalization and body dissatisfaction. As displayed in Table 18, the self-compassion

x internalization interaction was not statistically significant; however, there was a significant main effect for self-compassion.

Table 18

Summary of Hierarchical Moderator Regression Analyses of Self-Compassion Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.57	.57	
INTERN	1.87	0.38	4.90	<.01			
SCS	-27.58	4.39	-6.29	<.01			
Step 2					.58	.57	.01
INTERN	3.78	1.33	2.84	.01			
SCS	0.11	18.97	0.01	1.00			
INTERN*SCS	-0.69	0.46	-1.50	.14			

Note. INTERN = Internalization (SATAQ-R); SCS = Self-Compassion (ATMDT).

Self-compassion subscales. Table 19 shows that the mindfulness x internalization interaction significantly predicted body dissatisfaction. There was also a significant main effect for mindfulness. Figure 1 depicts the interaction between mindfulness and internalization and indicated that, independent of mindfulness level, as participants level of internalization increased, so too did their level of body dissatisfaction. However, as can also be seen, the level of mindfulness altered the relationship between internalization and the level of body dissatisfaction experienced. For people with lower mindfulness there was a stronger relationship between internalization and body dissatisfaction. Graphical representation also showed that with high levels of mindfulness, increases in internalization are associated with relatively small increases in body dissatisfaction. Inversely, lower levels of mindfulness lead to greater increases in body dissatisfaction.

Table 19

Summary of Hierarchical Moderator Regression Analyses of Mindfulness Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.45	.44	
INTERN	2.80	0.38	7.29	<.01			
MINDFUL	-10.83	3.76	-2.88	.01			
Step 2					.48	.46	.03
INTERN	5.85	1.40	4.17	<.01			
MINDFUL	27.54	17.40	1.58	.12			
INTERN*MINDFUL	-0.97	0.43	-2.26	.03			

Note. INTERN = Internalization (SATAQ-R); MINDFUL = Mindfulness (ATMDT).

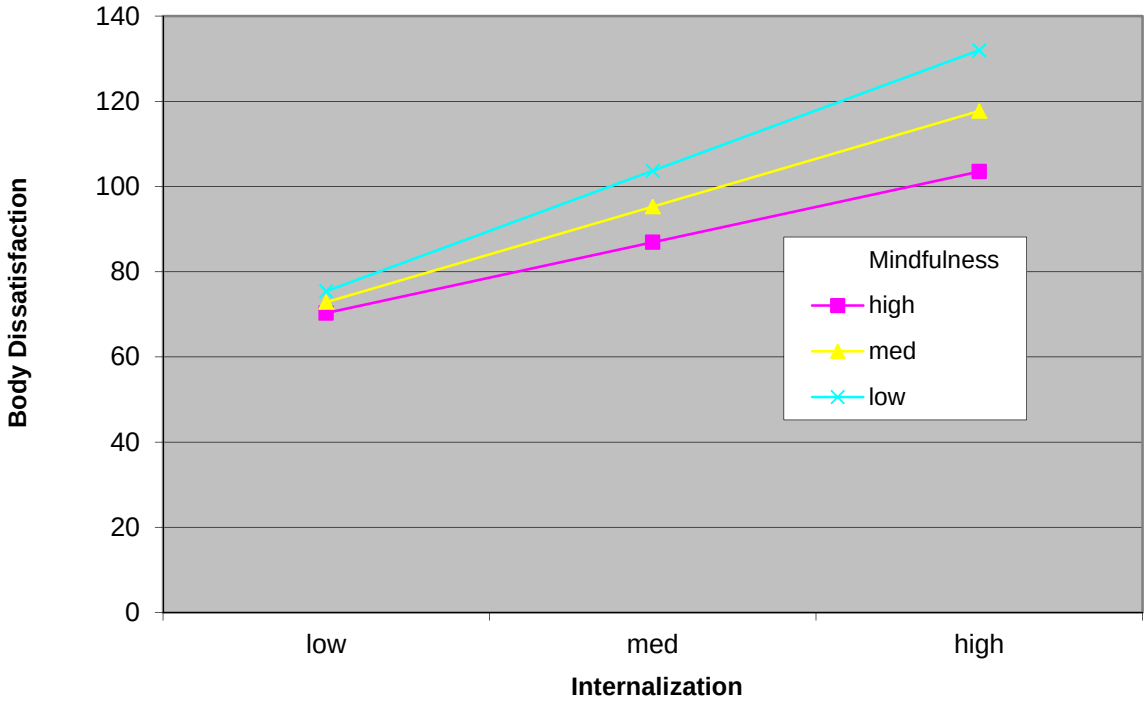

Figure 1. Internalization by mindfulness interaction predicting body dissatisfaction.

Tables 20 - 24 demonstrate that all other subscales of the SCS were not statistically significant. However, there were significant main effects for these subscales.

Table 20

Summary of Hierarchical Moderator Regression Analyses of Self-Kindness Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.56	.55	
INTERN	2.19	0.37	5.96	<.01			
SELFKIND	-21.08	3.62	-5.83	<.01			
Step 2					.56	.55	<.01
INTERN	3.09	1.16	2.67	.01			
SELFKIND	-7.09	17.36	-0.41	.68			
INTERN*SELFKIND	-0.34	0.41	-0.82	.41			

Note. INTERN = Internalization (SATAQ-R); SELFKIND = Self-Kindness (ATMDT).

Table 21

Summary of Hierarchical Moderator Regression Analyses of Self-Judgement Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.54	.53	
INTERN	1.89	0.41	4.65	<.01			
SELFJUDGE	-20.93	3.85	-5.44	<.01			
Step 2					.55	.53	.01
INTERN	3.11	1.10	2.83	.01			
SELFJUDGE	-2.47	15.89	-0.16	.68			
INTERN*SELFJUDGE	-0.48	0.40	-1.20	.23			

Note. INTERN = Internalization (SATAQ-R); SELFJUDGE = Self-Judgement (ATMDT).

Table 22

Summary of Hierarchical Moderator Regression Analyses of Common Humanity Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.49	.48	
INTERN	2.66	0.37	7.14	<.01			
COMHUM	-13.23	3.30	-4.01	<.01			
Step 2					.50	.48	.01
INTERN	4.06	1.19	3.42	<.01			
COMHUM	6.37	16.10	0.40	.69			
INTERN*COMHUM	-0.48	0.39	-1.24	.22			

Note. INTERN = Internalization (SATAQ-R); COMHUM = Common Humanity (ATMDT).

Table 23

Summary of Hierarchical Moderator Regression Analyses of Isolation Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.55	.54	
INTERN	2.18	0.37	5.83	<.01			
ISOLATE	-18.42	3.27	-5.63	<.01			
Step 2					.56	.55	.01
INTERN	3.88	1.14	3.42	<.01			
ISOLATE	6.43	15.99	0.40	.69			
INTERN*ISOLATE	-0.65	0.41	-1.59	.12			

Note. INTERN = Internalization (SATAQ-R); ISOLATE = Isolation (ATMDT).

Table 24

Summary of Hierarchical Moderator Regression Analyses of Over-Identified Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.45	.44	
INTERN	2.72	0.40	6.86	<.01			
OVERIDENT	-9.57	3.42	-2.80	.01			
Step 2					.46	.44	.01
INTERN	3.96	1.16	3.41	<.01			
OVERIDENT	9.07	16.75	0.54	.59			
INTERN*OVERIDENT	-0.48	0.42	-1.14	.26			

Note. INTERN = Internalization (SATAQ-R); OVERIDENT = Over-Identified (ATMDT).

Family experiences related to food. Hierarchical regression analyses were performed to test for main effects for family experiences related to food on body dissatisfaction. In addition, interaction effects for family experiences related to food by internalization on body dissatisfaction were also analysed by regressing body dissatisfaction onto the independent variable of internalization and the moderator variable of family experiences related to food and examining the interaction between these two variables. It was hypothesized that the higher the number of negative family food-related experiences a woman has, the stronger the relationship will be between internalization of cultural thinness norms and body dissatisfaction. As displayed

in Table 25, the maternal family experiences related to food x internalization interaction was not statistically significant. However, there was a significant main effect for maternal family experiences related to food, predicting body dissatisfaction.

Table 25

Summary of Hierarchical Moderator Regression Analyses of Maternal Family Experiences Related to Food Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.44	.43	
INTERN	2.82	0.39	7.24	<.01			
FERFQM	1.22	0.47	2.59	.01			
Step 2					.45	.44	.01
INTERN	4.63	1.44	3.22	<.01			
FERFQM	4.18	2.32	1.81	.07			
INTERN*FERFQM	-0.07	0.06	-1.31	.19			

Note. INTERN = Internalization (SATAQ-R); FERFQM = Maternal Family Experiences Related to Food (FERFQ-M).

As displayed in Table 26, the paternal family experiences related to food x internalization interaction did not significantly predict body dissatisfaction; however, there was a significant main effect for paternal family experiences related to food.

Table 26

Summary of Hierarchical Moderator Regression Analyses of Paternal Family Experiences Related to Food Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.47	.46	
INTERN	3.28	0.36	9.18	<.01			
FERFQF	0.13	0.04	3.55	<.01			
Step 2					.47	.46	<.01
INTERN	2.71	1.05	2.57	.01			
FERFQF	-0.58	1.21	-0.48	.63			
INTERN*FERFQF	0.02	0.04	0.59	.56			

Note. INTERN = Internalization (SATAQ-R); FERFQF = Paternal Family Experiences Related to Food (FERFQ-F).

Family experiences related to food subscales. Tables 27 - 30 show that no subscales of the family experiences related to food x internalization interactions were statistically significant in the analyses predicting body dissatisfaction. There was, however, a significant main effect for negative maternal commentary but no significant main effects for maternal modelling, negative paternal commentary and paternal modelling.

Table 27

Summary of Hierarchical Moderator Regression Analyses of Negative Maternal Commentary Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.49	.48	
INTERN	2.68	0.37	7.22	<.01			
NEGMATCOM	3.10	0.78	3.99	<.01			
Step 2					.50	.48	.01
INTERN	3.91	1.09	3.58	<.01			
NEGMATCOM	8.67	4.71	1.84	.07			
INTERN*NEGMATCOM	-0.14	0.11	-1.20	.23			

Note. INTERN = Internalization (SATAQ-R); NEGMATCOM = Negative Maternal Commentary (FERFQ-M).

Table 28

Summary of Hierarchical Moderator Regression Analyses of Maternal Modelling Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.41	.40	
INTERN	3.13	0.38	8.18	<.01			
MATMOD	0.43	0.89	0.48	.63			
Step 2					.41	.40	<.01
INTERN	3.98	1.07	3.70	<.01			
MATMOD	4.33	4.71	0.92	.36			
INTERN*MATMOD	-0.09	0.11	-0.84	.40			

Note. INTERN = Internalization (SATAQ-R); MATMOD = Maternal Modelling (FERFQ-M).

Table 29

Summary of Hierarchical Moderator Regression Analyses of Negative Paternal Commentary Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.46	.45	
INTERN	3.18	0.38	8.47	<.01			
NEGPATCOM	1.41	1.17	1.20	.23			
Step 2					.47	.45	.01
INTERN	4.33	1.18	3.67	<.01			
NEGPATCOM	9.19	7.67	1.20	.23			
INTERN*NEGPATCOM	-0.19	0.18	-1.03	.31			

Note. INTERN = Internalization (SATAQ-R); NEGPATCOM = Negative Paternal Commentary (FERFQ-F).

Table 30

Summary of Hierarchical Moderator Regression Analyses of Paternal Modelling Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	AdjR^2	ΔR^2
Step 1					.46	.45	
INTERN	3.27	0.37	8.92	<.01			
PATMOD	0.65	1.05	0.62	.54			
Step 2					.46	.44	<.01
INTERN	4.19	1.17	3.57	<.01			
PATMOD	5.39	5.88	0.92	.36			
INTERN*PATMOD	-0.12	0.14	-0.82	.42			

Note. INTERN = Internalization (SATAQ-R); PATMOD = Paternal Modelling (FERFQ-F).

Self-compassion and family experiences related to food. Hierarchical regression analyses were performed to test for a moderator effect between internalization and body dissatisfaction, with both self-compassion and family food-related experiences (maternal and paternal) in combination. As displayed in Tables 31 and 32, the self-compassion x family food-related experiences (paternal) x internalization interaction was not statistically significant; however, the self-compassion x family food-related experiences (maternal) x internalization interaction was.

Table 31

Summary of Hierarchical Moderator Regression Analyses of Self-Compassion and Paternal Family Experiences Related to Food Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	Adj R^2	ΔR^2
Step 1					.60	.59	
INTERN	15.97	2.91	5.49	<.01			
SCS	-16.61	2.91	-5.71	<.01			
FERFQF	6.58	2.45	2.69	.01			
Step 2					.63	.60	.03
INTERN	15.30	3.51	4.36	<.01			
SCS	-12.99	3.73	-3.48	<.01			
FERFQF	41.15	33.52	1.23	.22			
INTERN*FERFQF	-3.21	21.19	-0.15	.88			
INTERN*SCS	-6.08	2.48	-2.45	.02			
FERFQF*SCS	31.99	25.72	1.24	.22			
Step 3					.63	.60	<.01
INTERN	13.01	4.25	3.06	<.01			
SCS	-13.29	3.75	-3.55	<.01			
FERFQF	35.30	34.10	1.04	.30			
INTERN*FERFQF	-24.89	31.20	-0.80	.43			
INTERN*SCS	-8.77	3.77	-2.33	.02			
FERFQF*SCS	19.37	28.98	0.67	.51			
INTERN*SCS*FERFQF	-24.66	26.04	-0.95	.35			

Note. INTERN = Internalization (SATAQ-R); SCS = Self-Compassion (ATMDT); FERFQF = Paternal Family Experiences Related to Food (FERFQ-F).

Table 32

Summary of Hierarchical Moderator Regression Analyses of Self-Compassion and Maternal Family Experiences Related to Food Predicting Body Dissatisfaction

Variable	B	SE	*t*	*p*	R^2	Adj R^2	ΔR^2
Step 1					.58	.57	
INTERN	13.74	2.97	4.64	<.01			
SCS	-17.29	3.02	-5.73	<.01			
FERFQM	3.65	2.76	1.32	.19			
Step 2					.61	.58	.03
INTERN	13.19	2.95	4.47	<.01			
SCS	-15.78	3.04	-5.19	<.01			
FERFQM	6.18	2.92	2.12	.04			
INTERN*FERFQM	-5.33	3.23	-1.65	.10			
INTERN*SCS	-6.62	2.72	-2.43	.02			
FERFQM*SCS	-0.10	3.41	-0.03	.98			
Step 3					.63	.60	.02
INTERN	15.54	3.05	5.10	<.01			
SCS	-16.29	2.98	-5.47	<.01			
FERFQM	9.44	3.16	2.98	<.01			
INTERN*FERFQM	-5.08	3.16	-1.61	.11			
INTERN*SCS	-5.28	2.72	-1.94	.06			
FERFQM*SCS	-0.07	3.33	-0.02	.98			
INTERN*SCS*FERFQM	5.60	2.35	2.39	.02			

Note. INTERN = Internalization (SATAQ-R); SCS = Self-Compassion (ATMDT); FERFQM = Maternal Family Experiences Related to Food (FERFQ-M).

To examine the nature of the three-way interaction, the sample was divided by median split based on self-compassion scores, then tested for two-way interactions (between internalization and the maternal family food-related experiences variables) in both high and low groups (see Tables 33 and 34). The same procedure was followed based on a median split on the maternal family food-related experiences variable (see Tables 35 and 36).

In the first set of analyses, the two-way interaction between internalization and the maternal family food-related experiences variables was statistically significant for women with low levels of self-compassion but not significant for high levels of self-compassion. In the second set of analyses, the two-way interaction between internalization and the self-compassion

variables was statistically significant for women with low levels of maternal family food-related experiences but not significant for high levels of maternal family food-related experiences.

Table 33

Summary of Hierarchical Moderator Regression Analyses of Maternal Family Experiences Related to Food Predicting Body Dissatisfaction for Women with Low Self-Compassion

Variable	B	SE	*t*	*p*	R^2	Adj R^2	ΔR^2
Step 1					.26	.23	
INTERN	18.94	5.02	3.77	<.01			
FERFQM	4.83	4.31	1.12	.27			
Step 2					.33	.29	.07
INTERN	19.32	4.81	4.02	<.01			
FERFQM	12.87	5.35	2.40	.02			
INTERN*FERFQM	-11.68	4.96	-2.36	.02			

Note. INTERN = Internalization (SATAQ-R); FERFQM = Maternal Family Experiences Related to Food (FERFQ-M).

Table 34

Summary of Hierarchical Moderator Regression Analyses of Maternal Family Experiences Related to Food Predicting Body Dissatisfaction for Women with High Self-Compassion

Variable	B	SE	*t*	*p*	R^2	Adj R^2	ΔR^2
Step 1					.46	.43	
INTERN	12.55	3.84	3.27	<.01			
FERFQM	12.84	3.78	3.40	<.01			
Step 2					.49	.46	.03
INTERN	14.53	3.91	3.71	<.01			
FERFQM	15.28	3.94	3.88	<.01			
INTERN*FERFQM	6.15	3.40	1.81	.08			

Note. INTERN = Internalization (SATAQ-R); FERFQM = Maternal Family Experiences Related to Food (FERFQ-M).

Table 35

Summary of Hierarchical Moderator Regression Analyses of Self-Compassion Predicting Body Dissatisfaction for Women with Low Maternal Family Food-Related Experiences

Variable	B	SE	*t*	*p*	R^2	Adj R^2	ΔR^2
Step 1					.61	.59	
INTERN	17.88	3.87	4.62	<.01			
SCS	-14.14	4.11	-3.44	<.01			
Step 2					.66	.64	.05
INTERN	20.67	3.78	5.47	<.01			
SCS	-14.06	3.86	-3.64	<.01			
INTERN*SCS	-8.72	3.23	-2.70	.01			

Note. INTERN = Internalization (SATAQ-R); SCS = Self-Compassion (ATMDT).

Table 36

Summary of Hierarchical Moderator Regression Analyses of Self-Compassion Predicting Body Dissatisfaction for Women with High Maternal Family Food-Related Experiences

Variable	B	SE	*t*	*p*	R^2	Adj R^2	ΔR^2
Step 1					.49	.47	
INTERN	10.46	4.45	2.35	.02			
SCS	-20.81	4.38	-4.75	<.01			
Step 2					.49	.46	<.01
INTERN	10.32	4.56	2.27	.03			
SCS	-20.68	4.48	-4.62	<.01			
INTERN*SCS	-0.68	3.67	-0.18	.85			

Note. INTERN = Internalization (SATAQ-R); SCS = Self-Compassion (ATMDT).

The two-way interactions for the low and high self-compassion groups are depicted in Figures 2 and 3 and the two-way interactions for the low and high maternal family food-related experiences groups are depicted in Figures 4 and 5. As can be seen, Figure 2 depicts the interaction between maternal family food-related experiences and internalization for women with low self-compassion and indicated that, for people with lower negative maternal family food-related behaviours, there was a stronger positive relationship between internalization and body dissatisfaction (relative to those medium or high on negative maternal family food-related behaviours). Figure 3 depicts the interaction between maternal family food-related experiences

and internalization for women with high self-compassion. As can be seen, the interaction evident in the low self-compassion group was not evident in this group; primarily main effects were evident.

Figure 4 depicts the interaction between self-compassion and internalization for women with low maternal family food-related experiences and indicated that, for people with lower self-compassion, there was a stronger positive relationship between internalization and body dissatisfaction, relative to the medium or high self-compassion groups. In contrast, Figure 5 illustrates only main effects as all of the regression lines appear parallel.

In combination, these two follow-up analyses lead to a similar interpretation of the three-way interaction. The relationship between internalization and body dissatisfaction was strongest when self-compassion *and* maternal family food-related experiences were low. This indicated that women with both low levels of self-compassion and low levels of problematic maternal family food-related behaviours, affected the strength of the relationship between internalization and body dissatisfaction.

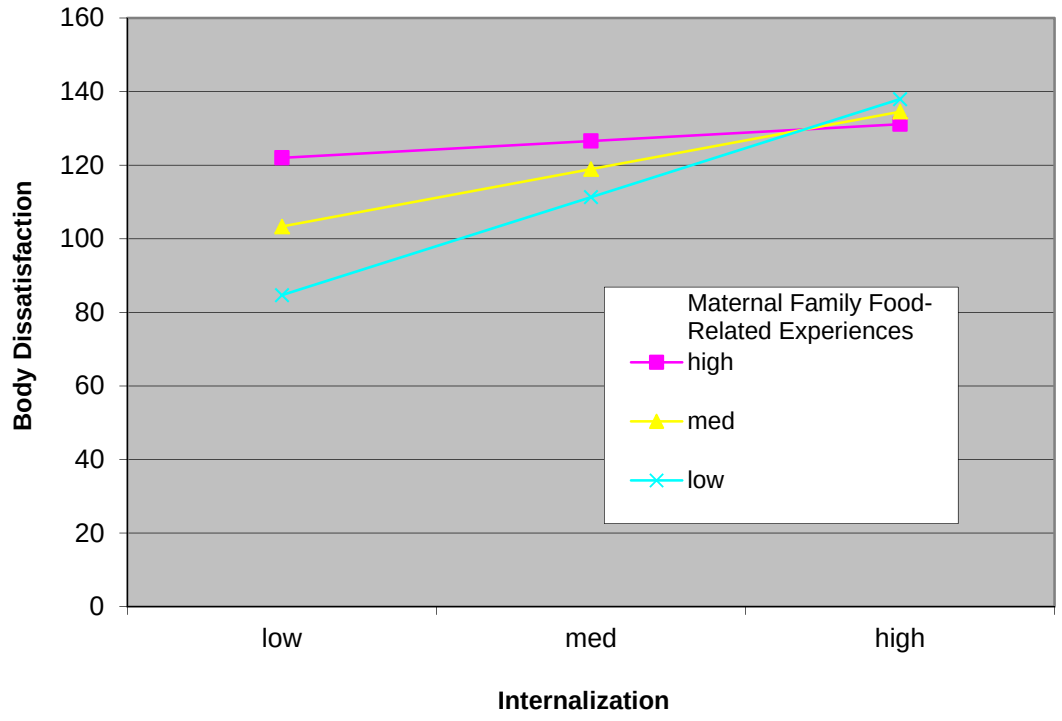

Figure 2. Internalization by maternal family food-related experiences interaction predicting body dissatisfaction for women with low self-compassion.

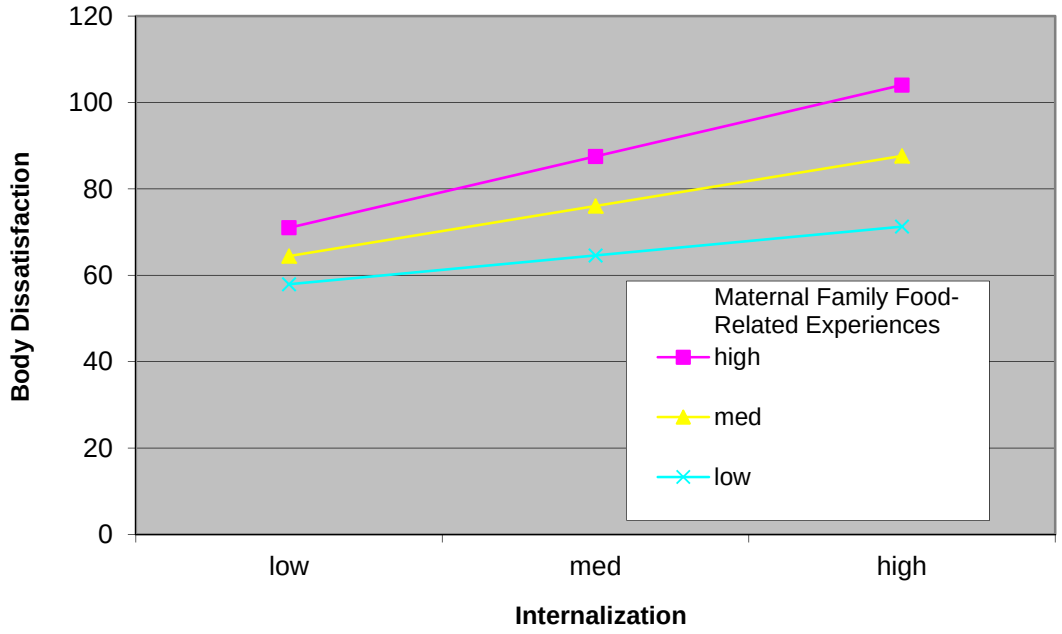

Figure 3. Internalization by maternal family food-related experiences interaction predicting body dissatisfaction for women with high self-compassion.

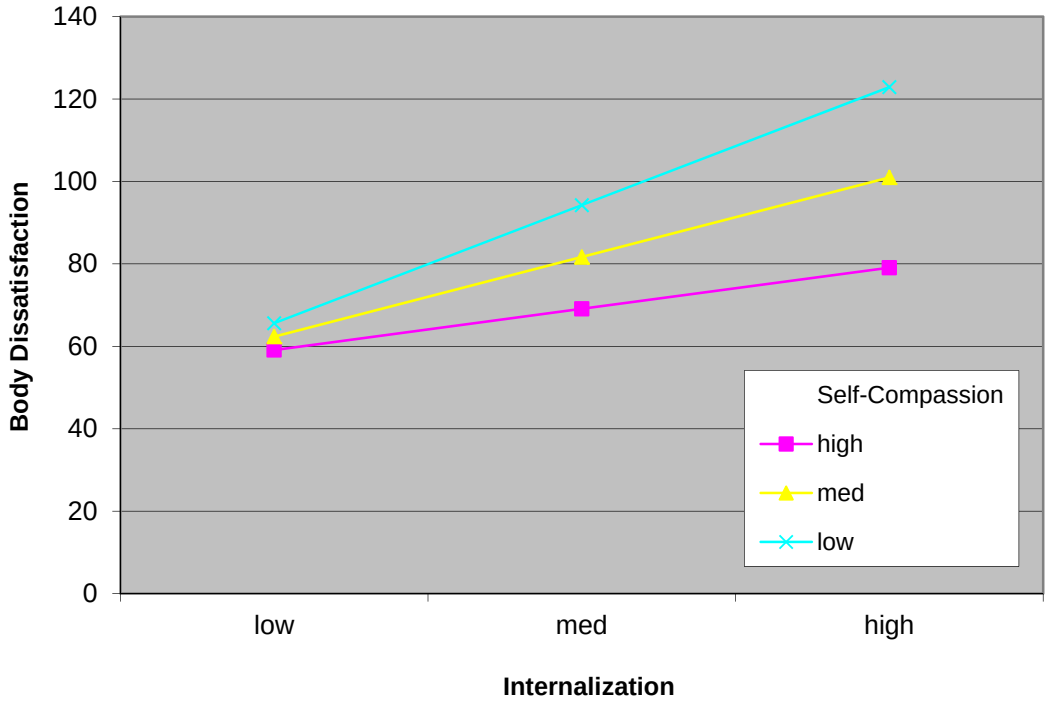

Figure 4. Internalization by self-compassion interaction predicting body dissatisfaction for women with low maternal family food-related experiences.

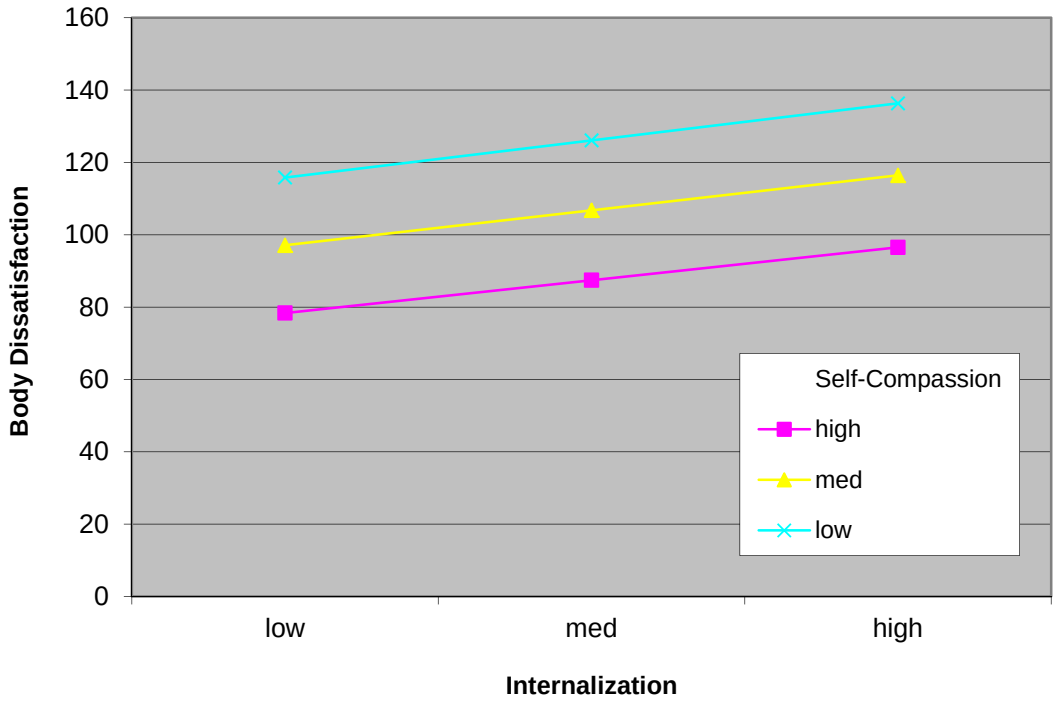

Figure 5. Internalization by self-compassion interaction predicting body dissatisfaction for women with high maternal family food-related experiences.

Discussion

Summary of Findings

The current study explored the potential for family food-related experiences and self-compassion to influence the strength of the relationships between awareness of Western sociocultural standards of beauty for women, internalization of those norms, and body dissatisfaction in a non-clinical population of New Zealand women. The current study also examined whether or not certain types of family food-related experiences strengthened the path between awareness of cultural thinness norms, internalization and body dissatisfaction.

Correlational analyses of variables in the sociocultural model replicated those found in previous research on the sociocultural model of eating disorders (Stice, 1994), that awareness of Western cultural thinness norms was significantly associated with internalization of those ideals and body dissatisfaction. There was also a strong, significant relationship between internalization of those norms and body dissatisfaction.

With regard to self-compassion, correlational analyses of variables suggested that self-compassion was significantly associated with awareness of Western cultural thinness norms, internalization of those values, and body dissatisfaction. As well, closer examination of the self-compassion subscales indicated that self-kindness, common humanity, mindfulness, self-judgement, isolation and over-identification were also significantly associated with awareness of Western cultural body image norms, internalization of those standards and body dissatisfaction.

In terms of family food-related experiences, correlational analyses of variables indicated that women's perception of negative maternal family food experiences was not significantly associated with awareness of cultural body image norms but was, however, associated with internalization of the thin ideal and body image dissatisfaction. In contrast, women's perception

of negative paternal family food-related experiences was significantly associated only with body dissatisfaction. With regards to the subscales of the family food-related experiences, correlational analyses of variables suggested that both maternal and paternal negative verbal messages related to food were associated with internalization of thinness values and body dissatisfaction. Of note, neither maternal nor paternal negative food-related messages were associated with awareness of Western cultural body ideals. In addition, maternal and paternal modelling of food-related difficulties was not significantly associated with awareness of sociocultural beauty standards, internalization of those values or body dissatisfaction.

Regression analyses of variables did not support the hypotheses that family food-related experiences and self-compassion moderated the relationship between awareness of cultural ideals and internalization of these norms and between internalization and body dissatisfaction. However, results did suggest that mindfulness, a subscale of self-compassion, may moderate the relationship between internalization of cultural thinness standards and body dissatisfaction. Results also suggested that certain types of family food-related experiences did not moderate the relationship between awareness, internalization and body dissatisfaction.

In terms of main effects, current findings suggested that self-compassion and all self-compassion subscales predicted internalization of societal norms of thinness as well as body dissatisfaction. In addition, women's perception of negative maternal family food-related experiences predicted internalization of Western cultural body ideals as well as body dissatisfaction while women's perception of negative paternal family food-related experiences predicted only body dissatisfaction. Finally, results suggested that specifically, women's perception of negative maternal commentary predicted internalization of Western beauty standards and body dissatisfaction. In addition, women's perception of negative paternal

commentary and paternal modelling of eating difficulties and body image concerns also predicted internalization of those values.

The results of this study are important because they are the first findings which examined self-compassion and food-related experiences within the family (and their subscales) in the context of the sociocultural model of eating disorders. In this way, the present study explored the potential for self-compassion and family food-related experiences (and their constituents) to be protective mechanisms against internalization of the espoused Western thin ideal and body dissatisfaction.

Theoretical Implications

Sociocultural model of eating disorders. The current findings are consistent with previous research on the sociocultural model which has also confirmed a significant relationship between awareness of Western cultural messages of thinness, internalization of those messages and level of body dissatisfaction (Stice, 1994; Twamley & Davis, 1999). This result highlights the critical nature of understanding the processes that lead to internalization of the Western thin-ideal message portrayed by family, peers and the media (Stice, 1994) and body dissatisfaction.

Moderator Analyses: Awareness and Internalization of Thin Ideal

Family experiences related to food. In the present research, a single score of family food-related experiences was examined for both the mother and father forms, to elucidate the general 'culture' (both negative verbal messages sent by parents regarding women's weight or body shape and modelling of eating or body image concerns by parents themselves), of food-related experiences that women were exposed to developmentally. In regard to family food-related experiences (maternal and paternal), the current study did not find statistically significant moderator effects between awareness of Western societal thinness norms and internalization of

those values. Findings also suggested that, in regard to the subscales of family food-related experiences (maternal and paternal), moderator effects were not statistically significant between awareness of Western societal thinness norms and internalization of those values. The finding that there were not moderator effects suggests that neither women's perceptions of their mothers' and fathers' food-related experiences within the family environment, nor specific types of family food-related experiences influenced the strength of the relationship between awareness of cultural thinness norms and internalization.

Self-compassion. In regard to self-compassion, the current study did not find statistically significant moderator effects between awareness of societal thinness norms and internalization of those values. Findings also suggested that, in regard to the self-compassion subscales, moderator effects were not statistically significant between awareness of Western societal thinness norms and internalization of those values. The finding that there were not moderator effects suggests that neither women's level of self-compassion, nor individual constituents of self-compassion influenced the strength of the relationship between awareness of cultural thinness norms and internalization.

Family experiences related to food and self-compassion. When family food-related experiences and self-compassion were combined, there were no statistically significant moderator effects between awareness of societal thinness norms and internalization of those values. This result suggests that women's perceptions of their mothers' and fathers' food-related experiences within the family combined with their level of self-compassion, did not influence the strength of the relationship between awareness of Western societal thinness norms and internalization.

Main Effects of Internalization of Thin Ideal

Family experiences related to food. Given that the family unit is a powerful social institution (Parke & Buriel, 2008), and those closest to an individual are likely to have a powerful influence on what is perceived as normal (Killeya-Jones et al., 2007), it is not surprising that parental figures are very likely to be influential agents within that system. Interestingly, results failed to find a statistically significant main effect of negative paternal family food-related experiences affecting a woman's level of internalization of societal thinness norms. It is possible that only women's perceptions of their mothers' negative food-related experiences predicts internalization because Western thinness values are particularly poignant for females and they are being propagated by a close family member of the same gender. For this reason, women may feel more inclined to internalize their mother's verbal messages and modelling as self-relevant and important. Benedikt, Wertheim, and Love (1998) supported the proposition that mothers exert a powerful influence on daughters' body image asserting a significant association between a mother wanting her daughter to be thinner and actively encouraging her to lose weight and daughters' moderate attempts to lose weight and body dissatisfaction. In addition, MacBrayer, Smith, McCarthy, Demos, and Simmons (2001) found that negative maternal modelling of food-related issues influences eating pathology and Smolak et al. (1999) found that maternal comments about daughters' weight and negative commentary about her own weight was associated with daughters' weight concerns.

When specific types of family food-related experiences were examined, results suggested that one of the most potent types of parental behaviour predicting women's internalization of the svelte Western ideal body, is negative commentary from both parents about their daughter's appearance. Specifically, current findings indicated that the greater a mother or father's negative commentary about their daughter's weight or body shape, the more women will internalize

Western societal messages of the thin ideal. Previous research has also found that negative parental commentary about women's weight or body shape plays an important role in women's internalization of those messages as being self-relevant and in their pursuit of thinness. Baker, Whisman, and Brownell (2000) has found that daughters' perceptions of maternal criticism of her appearance was associated with weight loss behaviour and Smolak et al. (1999) found that children's weight loss attempts were associated with parental comments about their weight. In addition, MacBrayer et al. (2001) found that being teased at home about one's weight is associated with symptoms of eating pathology. One possible explanation for these results is that children are so strongly influenced by parental values, attitudes and behaviours (Parke & Buriel, 2008), that they are likely to internalize messages they perceive are important to parents.

In addition, current results indicated that the more a father models eating difficulties and body image concerns, the more women will internalize the thin ideal. Previous research has also found that women's concern about being overweight was associated with her father's body image concerns (Keel, Heatherton, Harnden, & Hornig, 1997; Smolak et al., 1999). It is interesting to note that women's internalization of the thin ideal is strongly influenced by their father's but not their mother's modelling of a weight-centric culture and hyperconsciousness of appearance standards. One explanation for this aspect of current findings, is that modelling of body image preoccupation appears to be relatively prevalent amongst subclinical women (Mazzeo, 1999), so it is possible that the widespread 'normalcy' of this behaviour among women reduces the meaning that daughters place on it being specifically self-relevant if seeing it demonstrated by their mother. In contrast, the more women perceive their father endorsing sociocultural values about body image, the more they are likely to perceive it as important and

relevant to themselves because their father is transmitting an important family value that has social meaning.

The current finding that negative commentary (mother and father forms) and paternal modelling play a critical role in women's internalization of the thin ideal is important as it indicates that reduction of both parent's negative commentary and paternal modelling of weight and body image difficulties, may reduce internalization of the culturally esteemed ultra-slim female physique.

Self-compassion. Given that all self-compassion subscales (self-kindness, common humanity, mindfulness, self-judgement, isolation and over-identification) independently predicted internalization of the thin female physique, it is not surprising that the total self-compassion score also predicted internalization. Furthermore, researchers have found that the components within self-compassion interact to create a self-compassionate mindset (Neff & McGehee, 2010). One possible explanation for this result is that individuals who are more self-compassionate may interpret Western sociocultural body ideals in ways that promote less attachment to its personal relevance. In support of this proposition, Leary et al. (2007) purported that self-compassion is associated with keeping situations in perspective. Neff (2003b) also supported the proposition that a self-compassionate individual may interpret situations differently to a person with low self-compassion and asserts that self-compassion entails an ability to approach one's emotions with mindful objectivity. Furthermore, Neff (2003b) described self-compassion as an ability to hold a sense of suffering in hand with warmth, connection with others and concern about the situation. Finally, research has further suggested that self-compassion enhances wellbeing because it promotes interpersonal connectedness (as cited by Neff, 2008).

It is possible then, that self-compassionate individuals may be less likely to internalize the Western cultural thin ideal as being self-relevant because they consider a number of factors together with kindness towards themselves, mindfulness and a sense of common suffering when interpreting the sociocultural values. In this way, self-compassionate individuals may reduce interpretation of the cultural message of thinness as specific to them. In contrast, individuals who have lower levels of self-compassion may be more likely to have higher levels of self-judgement, feel isolated in their difficulties and become more carried away with their negative emotions, which may increase the likelihood of internalizing the Western thin ideal as self-relevant.

Results also indicated that the more a woman exhibits self-kindness, common humanity and mindfulness, the less she will internalize societal thinness norms. In contrast, the more a woman exhibits over-identification, self-judgement and isolation, the more she will internalize Western body image ideals. Neff (2003b) asserted that self-compassionate individuals are self-kind rather than critical of themselves, feel a common sense of humanity rather than feel isolated from others and they are more mindful in difficult times rather than over-identifying with their negative emotions. With this in mind, one plausible explanation for these results is that women who are kind to themselves are less likely to judge themselves harshly if they fail to meet beauty standards espoused by Western culture and, therefore, do not internalize the sociocultural messages as being a goal that they necessarily need to aspire towards.

In addition, women who interpret life's struggles as being part of common difficulties shared by everyone, may be less likely to internalize the Western thin ideal because they interpret the sociocultural body image values as being transmitted to all humanity not specifically pertaining to self. In contrast, women who feel more isolated from others in their life

struggles, may be more likely to internalize sociocultural body values as personally important to achieve in order to meet social demands.

Finally, women who exhibit greater levels of mindfulness may be less likely to internalize Western body norms because they interpret sociocultural expectations with balanced awareness of many factors reducing the likelihood that these standards need to be personally relevant. In contrast, women who over-identify with their negative emotions may internalize Western societal thinness standards because they become more emotionally overwhelmed with societal thinness demands that permeate through many mediums.

Moderator Analyses: Internalization of Thin Ideal and Body Dissatisfaction

Family experiences related to food. The current study suggested that, in regard to family food-related experiences (maternal and paternal), moderator effects were not statistically significant between internalization of Western societal thinness norms and body dissatisfaction. Findings also indicated that, in regard to the subscales of family food-related experiences (maternal and paternal), moderator effects were not statistically significant between internalization of Western societal thinness norms and body dissatisfaction. The finding that there were not moderator effects suggests that neither women's perceptions of their mothers' and fathers' food-related experiences within the family environment, nor specific types of family food-related experiences influenced the strength of the relationship between internalization of cultural thinness norms and body dissatisfaction.

Self-compassion. The current results indicated that with regard to self-compassion, moderator effects were not statistically significant between internalization of societal thinness norms and body dissatisfaction. This finding suggests that women's level of self-compassion does not influence the strength of the relationship between internalization and body

dissatisfaction. In addition, mindfulness was the only subscale that moderated the relationship between internalization of societal thinness norms and body dissatisfaction.

Mindfulness. First, results suggested that, although women with high levels of internalization also had high levels of body dissatisfaction, their level of mindfulness (low, medium or high) did, in fact, alter the relationship between her level of internalization and her level of body dissatisfaction. Neff (2003b) proposed that mindfulness entails holding our negative thoughts and emotions in mindful awareness and accepting them without becoming overly identified with them or avoiding them. It is plausible then, that women with different levels of mindfulness have varying abilities to hold negative thoughts associated with internalization of the thin ideal in awareness, without becoming overly identified with them, thus affecting their level of body dissatisfaction.

Second, results suggested that there was a stronger relationship between internalization of the thin ideal and body dissatisfaction for women with lower levels of mindfulness. Neff (2008) proposed that mindfulness is a non-judgemental state of mind in which thoughts and feelings are observed as they are and involves having a balanced view of negative emotions so that neither suppression, nor exaggeration of emotion occurs. With this in mind, one possible explanation for the current results is that women with greater levels of mindfulness are more able to tolerate negative emotions associated with a discrepancy between their body and the espoused Western ideal and, as a result, experience less body dissatisfaction.

Finally, further analyses of data also revealed that, for women with high levels of mindfulness, increases in their level of internalization of sociocultural body ideals was associated with relatively small increases in body dissatisfaction. Inversely, for women with lower levels of mindfulness, increases in internalization of Western beauty ideals was associated with greater

increases in body dissatisfaction. It is possible that this occurs because women with higher levels of mindfulness are better able to hold their negative emotions in balanced awareness without becoming enmeshed in them, thus creating the space to process any perceived inadequacies in a way that creates less emotional distress. This explanation is supported by Bishop et al. (2004) who suggested that the process of mindfulness involves observing negative thoughts and emotions with openness and clarity, thereby not becoming over-involved in an aversive response. Furthermore, Shapiro, Astin, Bishop, and Cordova (2005) asserted that mindfulness creates mental space that allows for greater emotional wellbeing. These results are particularly interesting given the fact that positive benefits of mindfulness have been reported in a number of studies (Bowen et al., 2009; Cayoun, 2009; Kabat-Zinn, 2003). These findings, however, need to be interpreted with caution because of the many analyses that were conducted and the fact that only one significant result was found.

Family experiences related to food and self-compassion. The current study examined whether or not family food-related experiences (maternal and paternal) and self-compassion in combination acted as moderators of the relationship between internalization of Western body ideals and body dissatisfaction (i.e., was there a three-way interaction). Interestingly, when fathers' family food-related experiences and self-compassion were tested in combination, there were no statistically significant moderator effects between internalization of societal thinness norms and body dissatisfaction. However, when mothers' family food-related experiences and self-compassion were tested, there was a statistically significant three-way interaction which suggested that self-compassion and maternal food-related experiences in combination moderated the relationship between internalization of societal thinness norms and body dissatisfaction. This result is surprising given that individually, mothers' family food-related experiences did not

appear to moderate the relationship between internalization of Western societal thinness norms and body dissatisfaction.

Follow-up analyses indicated that the three-way interaction was mainly due to there being a stronger relationship between internalization and body dissatisfaction among those who reported both low self-compassion and low negative maternal family food-related experiences. In trying to make sense of this result, it is possible that women with low self-compassion and low levels of problematic maternal family food-related behaviour, influence the strength of the relationship between internalization and body dissatisfaction due to a combination of body image focus together with a propensity to be self-critical.

Research found that, apart from families, peers and the mass media also strongly transmit messages related to the importance of being attractive and thin (Stice, 1994; Stice & Whitenton). It is possible that if daughters perceive their mother to have low weight and body image concerns amidst sociocultural pressure to be thin, they may feel a need to monitor their appearance personally in an attempt to conform to societal values. Together with the fact that women with low self-compassion may be more likely to be self-judgemental, feel isolated in their struggles and over-identify with strong feelings of inadequacy (Neff, 2008; Neff & McGehee, 2010), they may be more likely to judge themselves harshly as failing to meet the espoused Western body ideals and become dissatisfied with their body. In contrast, women who are more self-compassionate may be more able to interpret events with balanced awareness, thus reduce their discomfort with any disparity between themselves and the cultural ideal, thereby reducing their level of body dissatisfaction. In this way, women's level of self-compassion may serve to either temper or exacerbate perceived discrepancies between their own body and the 'thin ideal' and resultant body dissatisfaction.

The implications of these results are important as they may serve to illustrate the mutually interactive effect of both mothers' level of body image concerns and daughters' level of self-compassion on the relationship between internalization of Western thinness standards and body dissatisfaction. Although these analyses were exploratory, given the possible implications from the interpretation of results, future research may benefit from further study in this area.

Main Effects of Body Dissatisfaction

Family experiences related to food. Results indicated that the greater a woman's perception of her mother and fathers' negative family food-related experiences (both negative commentary about their daughter's weight or body shape and modelling of eating difficulties and weight concerns), the greater her level of body dissatisfaction. Inversely, the less negative maternal and paternal family food-related experiences a woman has, the less body dissatisfaction she is likely to experience.

Past research has also found that women's attitudes and behaviours related to weight and body shape are affected by parental comments and modelling (Smolak et al., 1999). In addition, previous research has found that parental negative commentary (Kichler & Crowther, 2009; Schwartz, Phares, Tantleff-Dunn, & Thompson, 1999) and maternal desire and encouragement of daughters' weight loss (Benedikt, 1998), are associated with body dissatisfaction. It is possible that women's level of body dissatisfaction is predicted by both parents' negative commentary and modelling because the family unit is a powerful subculture that transmits messages about the ideal body type for women (Kluck, 2008). In this way, regular reiteration of sociocultural body ideal messages by both parents in a variety of ways may be likely to encourage women to compare themselves to the body ideal and become body dissatisfied if there is a discrepancy between themselves and the ideal.

With regard to types of family food-related experiences, results indicated that the more women perceived negative maternal commentary (e.g., teasing, criticism, encouragement to control weight through exercise), the more her body dissatisfaction. Body dissatisfaction is a well-established risk factor for clinical and subclinical eating difficulties (Shaw et al., 2004; Stice, 1994; Tylka, 2004), so the current finding that mothers' negative commentary plays a critical role in women's body dissatisfaction is important as it indicates that reduction of mothers' negative commentary may protect against body dissatisfaction and the development of eating-related difficulties. Other researchers have also found that daughters' dissatisfaction with their weight was associated with comments about their weight (Keel et al., 1997) and that eating difficulties were associated with being teased about one's weight (MacBrayer et al., 2001).

With regard to maternal influence of negative commentary, Benedikt et al. (1998) found that women's body dissatisfaction was linked to mothers' disapproval of their daughter's body shape and indications that her daughter should restrict her eating. As well, Schwartz et al. (1999) found that maternal teasing and negative feedback about appearance was associated with daughters' body dissatisfaction. One plausible explanation for the current results is that daughters interpret mothers' negative commentary as important and self-relevant because mothers, being the same gender, are similarly afflicted by the same sociocultural thinness pressures and, together with the fact that they are influential members of a family unit (Parke & Buriel, 2008), daughters take heed of their mother's advice. In support of this hypothesis, Benedikt et al. (1998) confirmed that mothers have a strong influence on daughters' body image and Smolak et al. (1999) has also found that daughters become concerned about their body size in response to negative maternal comments about their weight.

Self-compassion. Results indicated that the greater a woman's level of self-compassion, the less body dissatisfaction she will experience. This result is not surprising given that all self-compassion subscales (self-kindness, common humanity, mindfulness, self-judgement, isolation and over-identification) also independently predicted body dissatisfaction and, as Neff and McGehee (2010) have noted, the self-compassion subscales mutually interact to create a self-compassionate mindset.

One explanation for this result is that individuals who are more self-compassionate may interpret information in ways that promote less body dissatisfaction than those who are less self-compassionate. Specifically, it is proposed that women with greater levels of self-compassion may be less likely to become dissatisfied with their body because a discrepancy between their own body and the thin ideal propagated by Western society is interpreted with kindness toward oneself, a balanced awareness of emotions and understanding that they are not alone in their struggle. In support of this hypothesis, previous researchers have found that individuals who are self-compassionate appear to be generally less condemning of their shortcomings (Neff, Kirkpatrick, et al., 2007).

Furthermore, self-compassion is seen as an orientation to care for oneself which inherently promotes positive self-feelings because one is reacting kindly towards themselves in difficult situations, rather than being self-critical (Neff, 2003b). Neff and McGehee (2010) further suggested that self-compassion offers protection against social comparison because individuals are not judging themselves harshly, feeling isolated by their failures or exaggerating adverse life events. Instead, they suggest that individuals are more likely to treat themselves with care and understanding, recognize that they are fallible human beings and experience their emotions with balanced awareness.

Finally, Gilbert and Proctor (2006) argued that self-compassion taps into a physiologically evolved system which was nurtured by secure attachment and positive care-giving, whereas self-criticism taps into a threat-focused system related to social ranking. They assert that individuals raised in more secure and supportive family environments would be more able to relate to themselves compassionately because of a well-developed compassionate system. With regard to this assertion, an alternative hypothesis is that women with lower levels of self-compassion have greater levels of body dissatisfaction because they have a poorly developed self-compassion system so are more likely to be self-critical and interpret disparities between the esteemed body ideal and their own body as a threat in the social arena. It is possible therefore, that self-compassion protects women from perceived feelings of inadequacy and, for this reason, reduces body dissatisfaction. Neff (2003b) asserted that individuals who are self-compassionate when suffering feelings of inadequacy, comfort themselves with understanding rather than self-criticism. In this way, it is possible that self-compassion protects against negative self-evaluation of body image.

In support of the premise that self-compassion is protective against self-evaluative feelings of inadequacy, Leary et al. (2007) demonstrated that self-compassion buffers people from negative self-feelings when confronted with adverse life events. As well, self-compassion has been found to be an adaptive form of self-to-self relating when considering personal inadequacies (Neff & McGehee, 2010), may counter social-comparison (Neff et al., 2005) and is purported to protect individuals against the negative consequences of being self-critical and feeling isolated from humanity (Neff, 2003b).

Current results also indicated that the greater a woman's level of mindfulness, self-kindness and common humanity, the lower her level of body dissatisfaction. Inversely, the lower

a woman's level of self-judgement, isolation and over-identification, the less dissatisfaction she is likely to have with her body.

With regards to self-kindness, Neff et al. (2005) supported these results and asserted that when people accept reality as it is with self-kindness, they experience less emotional distress. It is possible then, that women with higher levels of kindness are more accepting of their body as it is and for this reason, experience less body dissatisfaction than their more self-critical counterparts.

In relation to common humanity, Neff (2008) suggested that perceived failure to meet prescribed standards may be less distressing when the experience is interpreted as being part of common events experienced by many people. It is possible then, that women who see perceived inadequacies related to their body image, are less concerned by the implications if their struggle does not stand out amongst others. In this way, greater acceptance of their body is achieved. In contrast, women who feel isolated from others in their struggles with body image, may be more likely to interpret their situation as different to others which may result in increased distress and greater body dissatisfaction.

Finally, women's level of mindfulness may greatly impact on her level of body dissatisfaction as mindfulness involves the ability to take a balanced perspective of negative emotions (Neff, 2008). It is possible then, that women who mindfully process information related to body image, may be better able to provide the mental space needed to develop greater acceptance of current reality, thus reduce dissatisfaction with any current body shape or weight. In contrast, women who over-identify with their emotional states may be more likely to become consumed by negative emotions which may increase feelings of dissatisfaction with their body.

Strengths of Study

The first strength of this study was the use of some psychometric instruments with established psychometric properties which increases its methodological rigour. Specifically, the use of the SATAQ-R and BSQ have been found to be consistently reliable and have strong psychometric properties. For this reason, using these measures is likely to reliably measure the constructs of interest, therefore, increasing the strength of conclusions made from the results. However, the fact that the psychometric properties for the SATAQ-R and BSQ were not established in New Zealand, may limit the degree to which the results are generalizable to New Zealand women.

The second strength is that the mean BMI of the current sample (22.25) was within the normal BMI range of 18.5 to 24.9. This suggests that the sample used in the study was representative of the average weight range of women. However, this may also limit the degree to which the results are generalizable to people who are underweight or overweight.

The current findings also replicate previous research conducted on the sociocultural model of eating disorders, confirming significant associations between awareness of Western sociocultural body values, internalization of those norms and body dissatisfaction.

Finally, the current study has extended our knowledge on the relatively recent construct of self-compassion and is the first study, to my knowledge, to examine this construct within the sociocultural model of eating disorders. In addition, current findings add to the literature on specific types of family factors that may moderate variables within the sociocultural model and specific types of family food-related experiences that predict internalization of the thin ideal and body dissatisfaction.

Limitations

Some limitations should be noted in this study. First, the participants in the study were largely of European ethnic composition so it should not be assumed that the same pattern of findings would occur in populations of a different cultural diversity. However, although the current sample was primarily New Zealand European (85.8% New Zealand European and 1.9% Māori), the ethnic composition was not too dissimilar from that of the Christchurch community. The New Zealand Census (2006) identified the majority of Christchurch residents as New Zealand European (75%), while 8% were Māori.

Second, it is possible that the current sample is not representative of women in the general population as the data were cross-sectional consisting of undergraduate university students which is more representative of a university educated population than women in the general community. However, the current sample may be more representative of young women with body image concerns given that body dissatisfaction is particularly widespread among young women (Mazzeo, 1999) and college women have been found to engage in unhealthy weight management practices (Tylka & Subich, 2002).

Third, the cross-sectional nature of the data employed in this study should be viewed with some caution as no conclusions about causality can be drawn. Still, the results of the current study support the idea that self-compassion and family-food related experiences play a role within the sociocultural model of eating disorders.

Another significant limitation of the current study is the inflated probability of having made a type one error as a result of performing so many significance tests. It is possible that, if adjustments had been made to account for this, significant results may not have been found. However, adjustments were not made because the power for detecting interactions was already

reduced. For this reason, it is important to be tentative with any interpretation of results found as data analyses performed restrict the ability to be confident in significant findings.

Also, the fact that the current study used the SATAQ-R rather than the more recently developed SATAQ-3 (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004) might be considered a limitation. However, the current study planned a priori to study the "awareness of sociocultural standards" construct which is measured by the SATAQ-R but not the SATAQ-3.

As well, based on a power analysis with power of .8, the current sample may not have had an adequate sample size (106 participants) to ensure sufficient statistical power to detect interactions. The sample size may instead, have only been adequate to detect main effects.

Finally, all measures were self-report questionnaires which allows some opportunity for misreporting information. In particular, the FERFQ relies on memories from women's childhood which may increase the likelihood of inaccurate past information, or recollections may be confounded by recent memories of family food-related experiences. Despite these limitations, the findings from the current study still have important implications for eating pathology research and general clinical practice.

Clinical Implications

The research indicated that self-compassion and its constituents appear to be powerful predictors of internalization of Western sociocultural body values and body dissatisfaction for women. In particular, it has been indicated that mindfulness may moderate the strength of relationship between internalization of the thin ideal and body dissatisfaction.

These findings have important implications for clinical practice as examination of women's overall level of self-compassion as well as the components that comprise self-compassion (self-kindness, common humanity, mindfulness, self-judgement, over-identification

and isolation), may highlight important factors contributing to clinical and sub-clinical eating difficulties. With this in mind, it may be helpful for women's level of self-compassion (or components of self-compassion) to be studied further as possible components of interventions. In particular, results have suggested that, for women who have internalized the Western sociocultural thin ideal as self-relevant (to varying degrees), increasing their level of mindfulness may be effective in reducing their level of body dissatisfaction (a well-validated risk factor for eating-related difficulties).

Using mindfulness to attenuate the strength of internalization of the thin ideal, and body dissatisfaction may be an important psychological tool to enhance wellbeing. In fact, for those individuals who come from an appearance-focused family environment, mindfulness may provide a way to buffer the negative emotions associated with feelings of inadequacy or failure.

It appears then, that self-compassion may offer an alternative way of relating to oneself that may protect women from internalization of the thin ideal and becoming dissatisfied with their body. Importantly, if self-compassion is conceptualized as the ability to see ones problems accurately, yet respond with kindness and compassion rather than with self-criticism and harshness (Leary et al., 2007), it may be an important human strength as it may help negate the adverse responses one might have to difficult life events. Instead, it may invoke feelings of kindness, connectedness with others and balanced awareness of emotional states. Thus, self-compassion may promote resilience against the pervasive Western standards of body ideals and provide a process through which positive self-feelings can be created amidst adverse events. For this reason, intervention efforts to reduce women's internalization of Western body standards and becoming dissatisfied with their body, would most likely benefit from improving women's level of self-compassion. To achieve this, treatment plans would most likely benefit from

increasing women's level of self-kindness, connection to others and ability to tolerate negative thoughts and emotions through mindful awareness. Inversely, reducing women's level of self-criticism and their feelings of being consumed by negative emotions and being disparate from humanity, would also most likely reduce internalization and body dissatisfaction, thus reducing possible eating-related difficulties.

Current research has indicated that women's perceptions of family experiences related to food also appears to have an impact on their internalization of Western sociocultural body values and level of body dissatisfaction. In particular, the general family culture perceived by women to be promoted by mothers related to food, weight and body image (through negative commentary and parental modelling), seems to predict how much they will internalize Western cultural thinness values. As well, the type of culture based around food, weight and body image created by both mothers and fathers appears to predict their level of body dissatisfaction.

These results have important clinical implications because, given that body dissatisfaction is a risk factor for eating pathology and eating-related difficulties (Shaw et al., 2004), it is likely that if we can reduce women's exposure to a negative weight-centric culture promoted by mothers, they may reduce their level of internalization of the thin ideal (a well-validated risk factor on the pathway to body dissatisfaction). In addition, reduction of negative weight and body image cultures created by both parents is likely to reduce women's level of body dissatisfaction, thus reducing the likelihood of eating-related difficulties.

Finally, current findings suggest that although moderator effects for specific types of family food-related experiences were not statistically significant between awareness of Western sociocultural body values and internalization of those norms or between internalization and body

dissatisfaction, certain types of family food-related experiences appear to be predictive of internalization and body dissatisfaction.

Future Directions

Given the evidence that body dissatisfaction is a potent risk factor for developing eating pathology (Stice & Shaw, 2002; Twamley & Davis, 1999), and awareness of Western sociocultural appearance standards as well as internalization of those standards are critical mechanisms leading to body dissatisfaction (Thompson & Stice, 2001), it is imperative that research continues to explore possible protective mechanisms that moderate the path between awareness, internalization and body dissatisfaction.

Although the small amount of research conducted with the SCS is encouraging, more work needs to be done to explore the relation between self-compassion and eating-related difficulties. While this body of research is promising, there is more to be learned about self-compassion, and particularly mindfulness as a form of adaptive functioning in an appearance focused Western culture.

While the positive psychology movement argues that it is necessary to examine wellbeing in terms of strengths (Park, Peterson, & Seligman, 2004), it could be argued that self-compassion may be a psychological strength as it is a positive predictor of mental health (Neff & McGehee, 2010; Neff, Rude et al., 2007) and is positively associated with feelings of life satisfaction and connection with others (Neff et al., 2007). With this in mind, future research into self-compassion may further benefit from closer examination of the processes inherent in self-compassion in relation to eating pathology and resilience to Western sociocultural beauty messages.

In addition, future research would likely benefit from closer examination of food-related experiences within the family environment to further elucidate critical factors which may contribute to eating pathology. Finally, the study would benefit from replication with a larger sample and with different female populations. This would add strength to the generalizability of the results and the conclusions that could be drawn.

Conclusion

These are important findings because they highlight the possible potent nature of specific types of family food-related experiences in predicting internalization and body dissatisfaction. Specifically, current research found that if both parents transmit negative commentary about their daughter's weight and body, and fathers model weight and eating-related concerns, it appears to influence their daughter's internalization of the thin ideal.

These findings are important because internalization is a robust factor leading to body dissatisfaction, which is a risk factor for eating-related difficulties. It is therefore, likely to be beneficial to reduce women's exposure to perceived negative commentary about weight and body image transmitted by parents as well as reduce observations of paternal modelling of body image and weight concerns. In this way, it is likely to minimize women's internalization of Western thinness values. In addition, current findings indicated that minimizing exposure to perceived maternal displays of negative commentary related to weight and shape, is likely to be effective in reducing levels of body dissatisfaction occurring among women.

The increase in eating pathology and sub-clinical eating-related difficulties necessitates the need for research into protective mechanisms against these debilitating conditions. The Western sociocultural beauty values are difficult to achieve as they purport that having an ultraslim female physique is the route to success and happiness (Hohlstein, Smith, & Atlas,

1998). Unfortunately, in trying to attain these body standards, many women experience grave psychological and physical consequences (Mitchell & Eckert, 1987; Thompson et al., 1999). The current research has contributed to our knowledge by demonstrating that women's level of self-compassion plays an important role in internalization of the Western espoused thin ideal and body dissatisfaction. In particular, women's level of mindfulness moderates the strength of relationship between internalization and body dissatisfaction. In addition, family food-related experiences are also potent factors within a family environment that influence women's internalization of the thin ideal and body dissatisfaction.

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